POSITIVE AND NEGATIVE ASPECTS OF WOMEN'S EXPERIENCE IN NON-TRADITIONAL OCCUPATIONS

HIGHLIGHTS

A SURVEY OF YOUNG WOMEN IN NON-TRADITIONAL OCCUPATIONS;
THEIR EXPERIENCE AS STUDENTS IN MALE-DOMINATED PROGRAMS
(SECONDARY, COLLEGE AND UNIVERSITY LEVELS)
AND THEIR WORKING CONDITIONS

Québec

POSITIVE AND NEGATIVE ASPECTS OF WOMEN'S EXPERIENCE IN NON-TRADITIONAL OCCUPATIONS

HIGHL[illegible]

A SURVEY OF YOUNG WOMEN IN NON-TRADITIONAL OCCUPATIONS;
THEIR EXPERIENCE AS STUDENTS IN MALE-DOMINATED PROGRAMS
(SECONDARY, COLLEGE AND UNIVERSITY LEVELS)
AND THEIR WORKING CONDITIONS

93-01272/

Development Team

Coordination

Michèle Berthelot
Coordination à la condition féminine
Ministère de l'Éducation

Research and Writing

Michèle Berthelot and Nicole Coquatrix
in collaboration with the Bureau d'études sociographiques

Translation

Claudia de Fulviis, with the assistance of other members of the Education Development in the English Language translation team, Coordination du développement pédagogique en langue anglaise (CDPLA), ministère de l'Éducation.

© Gouvernement du Québec
Ministère de l'Éducation, 1989

ISBN 2 - -50 - 15557 - 2

Legal Deposit: Fourth Quarter 1990
Bibliothèque nationale du Québec

TABLE OF CONTENTS

List of Tables iv

Why a Study on Women Working in Non-Traditional Jobs? 1

Typical Young Women 3

"Male" Occupations 5

An Attractive Employment Status 6

The Reality Behind the Myth 8

A Not-So-Sexist Human Environment 12

High Overall Satisfaction 19

An Uncontested Career Choice 23

Virtually Trouble-Free Training 26

Equal Treatment 30

Variations in Experience in Relation to Level of Education 32

Variations in Experience in Relation to Occupation 35

Variations in Experience in Relation to Rate of Female Participation in Occupation and Training Program 38

Possible and Necessary Changes 39

LIST OF TABLES

Table 1 Job Status of Working Women in Non-Traditional Jobs 6

Table 2 Job Characteristics Associated with Stereotypes of Non-Traditional Occupations 9

Table 3 Respondents' Opinion on the Compatibility of Their Tasks with Pregnancy 11

Table 4 Respondents' Reception by Male Co-Workers and Relations with Supervisors 13

Table 5 Male Co-Workers' Reactions to Respondents' Errors and Successes 14

Table 6 Division of Tasks Based on Gender 16

Table 7 Incidence of Sexist and Sexual Harassment and Respondents' Evaluation of Its Seriousness 18

Table 8 Respondents' Reported Level of Job Saticfaction 21

Table 9 Individuals Who Influenced Respondents' Choice of Program . . 24

Table 10 Principal Difficulty Experienced during Training 27

Table 11 Incidence of Difficulties Associated with Stereotypes of Non-Traditional Training Programs 28

Table 12 Respondents' Assessment of Male-Female Relations during Training 31

WHY A STUDY ON WOMEN WORKING IN NON-TRADITIONAL JOBS?

In the mid 1980s, the implementation of technological changes and labour force projections did not bode well for the service sector, an area of employment that women were continuing to enter in large numbers. At the same time, generous benefits were attracting a growing number of women into traditionally male job sectors. Generally, jobs in these areas offer better salaries. These areas are also characterized by better work conditions such as a greater proportion of full-time jobs, better job security, more possibilities for advancement and greater access to union membership. Furthermore, the results of several surveys of women working in non-traditional jobs show that these women are highly satisfied with their work.

All of these factors were instrumental in the decision of the ministère de l'Éducation du Québec to make access to non-traditional careers the focus of its plan of action concerning the status of women. The question still remained, however, as to what these pioneers could expect upon leaving school. What were the actual working conditions and training opportunities available to women in non-traditional jobs? What kinds of obstacles did they face? How could they succeed in overcoming these obstacles? These questions could be given only piecemeal answers based on mostly American exploratory research that was mainly limited to the training period. Consequently, stereotypes surrounding these jobs, founded on particularly extreme and unfortunate experiences or the exceptional careers of great trailblazers, were often accepted as reality.

To shed some light on this little known area, in 1986 the MEQ undertook a research study, the highlights of which are presented in this report.[1] The research study, conducted concurrently with the in-service workshops offered to secondary school personnel, was part of a plan of action designed to encourage girls to enrol in non-traditional career programs and to persevere through the whole training period, as well as to help them find jobs in non-traditional sectors after completing their schooling. Moreover, a research study on the experience of women working in non-traditional jobs was necessary to permit the Ministère to identify problems encountered by these women, both in training and employment, in order to provide educational services that would make it possible to eliminate certain obstacles or prepare future workers to better overcome them. In addition, familiarity with these pioneer women's sources of job satisfaction would provide the Ministère with information that is crucial to its continued efforts to encourage adolescent girls to enter non-traditional careers.

---

[1] Those interested in a more detailed exposition of the results of the research study can request the **Summary of the Results**, published under the same title as the **Highlights**, from the regional offices of the ministère de l'Éducation du Québec or from the Ministère's Coordination à la condition féminine by calling (418) 643-3241.

Following the practice of Employment and Immigration Canada, the research team considered non-traditional any job in which the work force was less than 33.3% female at the time of the 1981 census, the last for which results were available.[2] A list was compiled of the secondary school, college and university training programs that might prepare young women for these occupations. Next, on the basis of lists of graduates of these programs for the period from 1979 to 1983, a statistically representative sample of the population under study was drawn for each level of instruction. In all, 851 women holding non-traditional jobs answered the survey questionnaire: 123 secondary school graduates, 369 college graduates and 359 university graduates. The data was collected in 1986. Each graduate reached by telephone was screened by means of a questionnaire to determine whether she held a non-traditional job. If she did, the respondent was invited to complete the survey questionnaire. The 75 items of the questionnaire required a telephone interview of about 20 minutes to complete.

---

[2] A new list of non-traditional jobs was later prepared, based on the data of the 1986 census. It differs little from the list used here; the 1981 list contained 338 non-traditional occupations, while the 1986 list had 331.

TYPICAL YOUNG WOMEN

The respondents were relatively young working women. On average, secondary school graduates were just over 23, college graduates were 25, and university graduates were close to 29. As for marital status, almost two thirds of the working women with a secondary school education were single, whereas a little less than half of those with a college or university education were single. Except for the university graduates, who seem more likely to be single, the status of the respondents corresponds to the general young female population of Québec. In general, the evidence suggests that women who hold non-traditional jobs are neither more nor less likely to be married than Québec women in general.

The vast majority of the respondents did not have children, and the majority of those who did, had only one. As with the respondents' marital status, their situation with respect to children should be interpreted in the light of general demographic trends; women are having fewer and fewer children, and they are having them later in their reproductive years.

Almost all the secondary school and college-level respondents and a large majority of the university respondents were from families in which both parents were French Canadian. These families had an average of four to five children; the less educated respondents came from larger families. The respondents grew up with an equivalent number of brothers and sisters. Contrary to the results obtained from other samples, among the non-traditional working women interviewed, the results did not show a greater proportion of only children, first-born children, or first-born girls raised in a "family of boys."

Furthermore, the results did not confirm those of certain American studies which maintain that women from an upper-middle to middle class background are more likely than others to choose a non-traditional career. In the case of a large proportion of respondents, the father was a blue- or white-collar worker. If respondents whose fathers were technicians are included, it can be said that the majority of the secondary school and college graduates, and more that one third of the university graduates come from families of low or average socioeconomic standing. Moreover, the results indicated a clear correlation between the daughter's level of schooling and the father's level of employment. In other words, the greatest proportion of fathers with high-ranking positions was found among the respondents with the highest levels of education. It can therefore be concluded that although these women succeeded in overcoming occupational stereotypes, nevertheless, there was a clear correlation between their level of schooling and their social background. The relationship between the career choices of women in non-traditional jobs and their mothers' occupations was more difficult to establish since the majority of the respondents in the three levels of education came from families in which the mother worked in the home. It was noted, however, that among the mothers who were salaried workers, a slightly larger number of the university respondents' mothers occupied higher level positions. The most obvious finding, however, was that having a mother who was a homemaker does not prevent girls from embracing non-traditional careers.

The social phenomena described above is equally valid in the choice of a spouse. Half of the secondary school and college graduates and three quarters of the university graduates had spouses whose occupation corresponded to the level of education they themselves had. For example, the spouses of secondary school graduates were primarily blue- or white-collar workers, those of college graduates were primarily technicians, and the large majority of university graduates had spouses who were either professionals or managers.

With respect to the relationship between the respondents' level of education and their level of employment, the findings showed that the majority of secondary school graduates (63.9%) were either blue- or white-collar workers, whereas about one third of all the respondents were technicians (31.1%) and 4.9% were entrepreneurs. A very large proportion of college graduates (91.3%) were technicians; the rest were professionals (3.8%), workers (3.4%) or entrepreneurs (1.5%). Almost all the university graduates (98.6%) were professionals or managers and a few of them (1.4%) were technicians. Clearly, the level of education largely determines the level of employment held on the job market. As expected, a secondary school diploma leads primarily to a blue- or white-collar job, a college diploma to a technical job and a university degree to a professional or managerial position. It is nonetheless interesting to note that a sizable minority of secondary school graduates (31.1%) climbed the ladder and held positions for which a college education is normally required.

"MALE" OCCUPATIONS

The women interviewed were working or had worked in the course of the previous 12 months in a non-traditional job, that is, a job in which women made up a third or less of the total labour force. These jobs were various. Of the secondary school graduates, 31 held such jobs, including butchers, technical designers and photoengravers. At the college level, the respondents were employed in 42 different occupations: some were architectural, engineering, or physical science technicians, while others were police officers. The university respondents were also employed in 42 different occupations. They were predominantly accountants, lawyers, engineers, dentists and mathematicians.

Although all the jobs held by the respondents were non-traditional, some were more so than others. The participation rate of women in the jobs held was 12.9% for the college graduates, 13.2% for the secondary school graduates and 21.3% for the university graduates.[3]

The low rate of female participation in these jobs did not mean, however, that they were in contact solely with men during working hours. As can be expected, almost all of these workers--nine out of ten--had a man as their immediate superior. And although three quarters of the secondary school and college graduates maintained that they worked mostly with male colleagues, this proportion plunged to less than half in the case of the university graduates. Furthermore, the women in non-traditional work environments often dealt with a clientele that was made up of both men and women: only one third of the secondary school respondents and half of the college and university graduates said that they were in contact with a predominantly male clientele.

---

[3] The rate of female participation is the percentage of women present in a mixed group.

AN ATTRACTIVE EMPLOYMENT STATUS

The occupational situation of the respondents seems attractive from several viewpoints (Table 1).

Table 1 – Job Status of Working Women in Non-Traditional Jobs

Job Situation	Secondary		College		University	
	N*	%	N	%	N	%
· job in the private sector	122	85.2	366	59.9	352	65.9
· permanent job	122	75.4	369	68.0	357	82.9
· regular work week (30 to 44 hours)	123	77.2	366	90.5	356	66.6
· day shift	122	72.1	362	80.6	342	81.9
· salary of $15,000 or more	120	40.0	361	75.9	349	95.4
· unionized	121	30.6	368	39.4	357	17.4
· access to training	121	46.3	359	58.2	315	79.7
· promotion obtained	117	44.4	362	32.7	304	45.7

* Number of women who answered the question

A large majority of these women occupied permanent, full-time day jobs. Considering the young age of the respondents and the difficulties currently experienced by young people trying to enter the work force, this situation seems to be relatively positive.

Except for the secondary school graduates, the salaries of workers in non-traditional jobs were higher than average for working women in Québec. In 1986, 40.0% of the secondary school respondents, 75.9% of the college graduates and 95.4% of the university graduates were earning $15,000 or more annually, whereas only 39.2% of all women working in Québec were in the same situation. At equivalent levels of education, the interviewees' salaries were closer to those of men than to those of women in Québec. This supports several studies showing that the salaries of women in traditionally male occupations are higher than those of other working women.

At first glance, and with the exception of the university graduates, the respondents' level of unionization (30.6% for secondary school, 39.4% for college and 17.4% for university respondents) seems comparable to that of the general population of working women in Québec. However, if we consider the low degree of unionization of women working in the private sector (23.7% in 1986) and the large percentage of respondents who were employed in this sector, the proportion of unionized workers among the secondary school and college graduates seems relatively high in comparison. This proportion is similar to that observed among men employed in the private sector. The situation of the university graduates, whose level of unionization was only about half that of the secondary school and college graduates, should be viewed in the light of the high proportion of liberal professionals who are either self-employed or employed in a family business, as well as the strong presence of managers in the ranks of the university graduates.

The women interviewed also reported good opportunities for training and promotions. About half of the workers with a secondary school or a college diploma and more than three quarters of those with university degrees felt that their employer made it easy for them to acquire training. A large number of them had, in fact, taken courses after graduation. In this respect, job-related training courses were the most common, followed by courses in management and administration and in computer training. It is interesting to note that a large number of the secondary school and college graduates took courses at a higher level of education than the one in which they obtained their diploma.

It seems relatively easy to climb the ladder: almost half of the secondary school and university graduates and one third of the college graduates received a promotion since they started work for their employer. More than two thirds of the workers with a secondary school or university education and more than half of the college graduates considered their chances of receiving a promotion to be good or very good.

HOWEVER...

Although a large majority of respondents occupied permanent positions, a sizable minority of respondents held jobs with a precarious status (temporary, contractual, other): nearly one fifth of the university graduates, one quarter of the secondary school graduates and nearly one third of the college graduates.

With regard to salary, it is interesting to note that a non-traditional occupation does not automatically mean a higher salary: although 90% of the respondents with a secondary school education worked full-time, about a quarter of them earned less than $10,000 per year, a salary that is equivalent or inferior to the poverty line.

As for promotions, while the majority of workers said that they had good or very good possibilities of being promoted, a sizable minority of respondents--26.2% at the secondary and university levels and 41.3% at the college level--still considered their opportunities for a promotion poor or very poor. Moreover, some respondents--13.1% and 19.1%, depending on the level of education--were of the opinion that their male co-workers were privileged in this respect.

THE REALITY BEHIND THE MYTH

One of the recognized obstacles to girls' access to male-dominated occupations is the popular image of these occupations. Stereotypical ideas about non-traditional work are based largely on exaggeration and generalizations concerning tasks occasionally associated with manual labour, heavy industry and blue-collar work. For example, it is commonly assumed that non-traditional jobs entail

Table 2 – Job Characteristics Associated with Stereotypes of Non-Traditional Occupations

Characteristics	Secondary %					College %					University %				
	N	Often	Some-times	Rare-ly	Never	N	Often	Some-times	Rare-ly	Never	N	Often	Some-times	Rare-ly	Never
· travel abroad	123	2.4	5.7	8.1	83.7	369	7.8	14.0	16.8	61.5	359	14.2	30.1	22.0	33.7
· working in isolation	123	15.4	9.8	9.8	65.0	369	9.8	13.3	23.1	53.8	359	13.4	8.1	29.2	49.3
· excessive workloads	122	27.0	32.8	17.2	23.0	369	22.9	40.0	17.5	19.6	358	47.5	34.9	8.9	8.7
· exposure to health risks	123	22.8	19.5	17.9	39.8	368	25.8	22.9	17.1	34.3	358	3.9	8.4	19.6	68.2
· work requiring physical strength	123	18.7	17.9	22.8	40.7	369	9.2	20.4	26.4	43.9	359	0.6	3.9	15.6	79.9
· dirty work	123	45.5	23.6	10.6	20.3	369	27.4	26.4	14.8	31.4	359	3.1	10.9	13.4	72.7
· operation of heavy machinery or vehicles	121	10.7	5.8	9.9	73.6	369	2.4	5.7	7.0	85.0	359	0.6	0.6	3.6	95.3
· intense stress	123	21.1	26.8	17.9	34.1	368	15.7	36.4	18.8	29.1	358	35.5	35.8	10.9	17.9

unhealthy working conditions (dirt, dust, noise, extreme variations in temperature, stress), dirty tasks or those requiring inordinate physical strength, and work with heavy machinery or vehicles. With respect to occupations that are too high in the economic hierarchy to be readily associated with dirty hands, there are discouraging references to frequent travel, stress and excessive workloads in management, or isolation and a lack of contact with the "real world" in scientific work. The actual situation is altogether different. Table 2 specifies in what proportion and how frequently working women actually face the various difficulties attributed by popular misconception to non-traditional jobs. First of all, for the eight characteristics mentioned at the three levels of instruction, in none of the cases did a majority of the respondents say that they often encountered the supposedly typical condition. The alleged problems[4] of non-traditional work were by no means a frequent experience for the majority of the women interviewed, and some of them appear to be virtually absent from the lives of such women. A very large majority of these workers--between 83.5 and 98.9%, according to level of schooling--never had to use heavy machinery or equipment. From 63.5% to 95.5% of the respondents rarely or never had to perform tasks that required a great deal of physical strength. Working in isolation was a rare or nonexistent situation for a large majority of the respondents. So was geographical mobility, although a sizable minority of the workers with a university degree were called upon to travel more frequently.

HOWEVER...

The fact remains that certain negative images associated with technical or blue-collar jobs bear a similarity to the work conditions of a sizable number of the women interviewed. For example, almost half of the secondary school graduates and more than one quarter of the college graduates interviewed said they must often perform dirty jobs; about one quarter of these workers must also often deal with heavy workloads. In addition, one worker out of two, either a secondary school or a college graduate, maintained that it would be impossible for her to execute her usual job tasks if she were six months pregnant.

---

[4] The term "problems" is used here to describe characteristics of non-traditional employment that certain preconceptions categorize as negative. However, the respondents did not necessarily experience physical demands, frequent travel or work in isolation as inconveniences.

Table 3 – Respondents' Opinions on the Compatibility of Their Tasks with Pregnancy

Possibility of carrying out job duties if six months pregnant	Secondary (n=120) %	College (n=359) %	University (n=353) %
yes	49.2	45.2	87.5
no	50.8	54.8	12.5

It is legitimate to ask, however, whether these two negative aspects are intrinsically linked to performing a non-traditional job, or whether they perhaps reflect a labour structure that is still too little concerned with the specific needs of workers of both sexes. It should also be noted that although certain conditions attributed to high-level "male" jobs (long hours, heavy workloads, stress) were not experienced as frequently and as commonly as the popular myth would have it, neither were they the product of pure invention. More than one quarter of the university graduates worked more than 44 hours per week; about half of them often experienced heavy workloads and more than one third, intense stress. However, according to the respondents, the primary cause of stress was lack of time, in the form of unreasonable deadlines, the excessive stress on productivity, the mad rush for information, and orders due to be delivered "yesterday." These examples suggest that the stressful time pressure cited by the respondents is unrelated to the non-traditional nature of their jobs.

If it seems essential to comment on the difficult conditions sometimes experienced by non-traditional workers, it is also necessary to specify that these conditions can also occur in traditionally female occupations, which are not always as clean and undemanding as they are said to be. The findings suggest that the isolation of women working in the printing industry is not greater than the isolation experienced by homemakers, that the stress experienced by notaries is not greater than that experienced by receptionists or telephone operators, that the environmental stressors of physical science technicians are no more numerous than those faced by women in the textile industry, that lawyers do not travel more than flight attendants, that butchers do not need more physical strength than nursing assistants, that job tasks performed by women biology technicians are not dirtier than those performed by nurses. Finally, considering the number of women who are beaten by their spouses, it seems appropriate to question whether policewomen run a greater risk of assault than homemakers.

A NOT-SO-SEXIST HUMAN ENVIRONMENT

"A great deal more psychological strength than physical strength is needed to perform a non-traditional job." This opinion, expressed by a female student in a non-traditional program, is food for thought. It suggests that the social conditions surrounding the performance of a non-traditional job, such as the human environment, can pose more problems than the material conditions or the physical demands of the job. The following stereotypical description of the non-traditional job setting is not very inviting for a woman. Male workers are supposedly hostile to a woman encroaching on their occupational turf. A woman in a predominantly male workplace is supposedly accepted only on the condition that she pass a difficult initiation test to which she is subjected by her male colleagues. A single professional mistake is enough to discredit her for good, while conspicuous success provokes feelings of jealousy. Her male colleagues do not have confidence in her skills and, consequently, her professional expertise is not solicited. And supervisors, already reticent about hiring women, supposedly have a tendency to impose stricter supervision on them, to ally themselves with the male employees and to confine women to secretarial tasks or make them the targets of sexual harassment.

All of these points were raised with the women interviewed. It appears that the fate of female workers in non-traditional jobs is far from being as negative as the situation depicted above would lead us to believe.

Table 4 – Respondents' Reception by Male Co-workers and Relations with Supervisors

Reception by Men	Secondary (n=117) %	College (n=365) %	University (n=322) %
· very favourable	30.8	23.6	26.1
· favourable	60.7	62.2	65.2
· unfavourable	4.3	12.6	8.1
· very unfavourable	4.3	1.6	0.6

Relations with Supervisor	Secondary (n=122) %	College (n=364) %	University (n=308) %
· very good	47.5	49.9	54.9
· good	47.5	46.4	43.2
· poor	2.5	3.1	1.9
· very poor	2.5	0.5	0.0

The human relations experienced by women in the workplace seemed pleasant. According to Table 4, eight to nine workers rated the reception given them by their male colleagues as favourable or very favourable. Furthermore, when questioned on how attitudes towards them evolved, six out of ten women at each level of education said that these attitudes, already positive upon their arrival, improved over time. The proportion of women who said that the situation deteriorated was very low.

Table 5 – Male Co-Workers' Reactions to Respondents' Errors and Successes

Reaction to Errors	Secondary (n=115) %	College (n=341) %	University (n=228) %
· offer help	67.8	61.6	60.4
· offer no help	20.0	24.9	30.2
· reprimand	3.5	2.2	1.0
· mockery	4.3	7.0	1.0
· no reaction	1.7	2.0	3.1
· other	2.6	2.3	4.2

Reaction to Success	Secondary (n=114) %	College (n=345) %	University (n=287) %
· open congratulations	51.8	56.4	53.7
· covert esteem	14.0	16.4	18.5
· indifference	27.2	15.5	14.6
· jealousy	1.8	3.0	2.1
· no reaction	4.4	6.3	8.7
· other	0.9	2.3	2.4

In the respondents' opinion, relations with their supervisors were also more harmonious than conflictual. Almost all the women interviewed described their relations with their superior as "good" or "very good"; about one half qualify these relations as "very good." The respondents were asked to compare themselves to their male colleagues in this respect. The respondents' assessment indicates that the relations they establish with their superiors are slightly better than those between their male colleagues and their superiors. It is possible that the obligation that women in non-traditional jobs sometimes feel to prove themselves and to make an extra effort enhances their productivity and this, in turn, leads their employers to appreciate them more. It is also possible that because they are socially conditioned in a way that encourages them to maintain good relations with others, women reap certain benefits when it comes to relating to their supervisors.

As a general rule, an error did not bring on hostility any more than success gave rise to jealousy on the part of male co-workers. At all three levels of education, more than 60% of the respondents said that the main reaction of their male colleagues was a desire to help them rectify their mistakes. Those who turned a blind eye to the mistakes of their female co-workers came second, and made up between 20% and 30% of the answers, depending on the level of education. Negative reactions, reprimands and mockery occurred very little, and affected fewer than one woman out of ten at the secondary school and college levels, and two out of 100 at the university level.

Where a woman succeeded particularly well in a task, in more than half the cases the main reaction of male colleagues was to congratulate her openly on her success. If those who admired a successful female worker from a distance are added, close to two thirds of the secondary school respondents and nearly three quarters of those at the college and university levels evaluated the reaction of their male colleagues positively. In their opinion, reactions to the mistakes and successes of male colleagues were similar to those they themselves elicited.

In the same vein, a very large majority of the women--between 78.8% and 87.9%, depending on the level of education--considered that in the eyes of their supervisors and male co-workers, their opinion carried the same weight as that of a male co-worker.

In order to evaluate the existence of sexism in task distribution among workers, the women interviewed were asked to indicate whether certain tasks were assigned more often to them than to their male colleagues or vice versa.

Table 6 – Division of Tasks Based on Gender

	Secondary		College		University	
Certain tasks are assigned more frequently	to female workers (n=117) %	to male co-workers (n=117) %	to female workers (n=334) %	to male co-workers (n=331) %	to female workers (n=303) %	to male co-workers (n=299) %
· yes	23.1	36.8	16.3	26.9	15.2	12.0
· no	76.9	63.2	83.7	73.1	84.8	88.0

More than three quarters of the workers, at each level of education, said that no task was assigned to them more often than to men. However, at the secondary school and college levels, the tendency to assign certain tasks to men seems to be slightly more pronounced. Although the sexual division of labour affected only a minority of the respondents at all three levels of education, secondary school graduates cited it most often, and university graduates least often. The difference may be due to the higher incidence in the secondary school graduates' jobs of tasks clearly associated with male stereotypes, notably jobs requiring physical strength, dirty work and jobs involving health risks (Table 2).

With respect to sexist and sexual harassment, while its importance should not be minimized, the results are inconclusive as to whether it is more widespread and serious in a male-dominated workplace. Table 7 shows that sexist harassment (insistent looks and unpleasant jokes of a sexual nature) is, without doubt, the most common form of harassment. About one third of workers who are either secondary school or university graduates and almost half the college graduates often or sometimes experienced these types of situations in their work environment. The more explicit form of sexual harassment, which consists of subjecting female workers to unwanted overt propositions and touching, was much less widespread. More serious forms of harassment, such as propositions of a sexual nature accompanied by promises or threats in the case of a refusal, seemed to be very rare indeed.

The respondents reported that co-workers were the principal harassers. To a lesser extent, supervisors, clients and subordinates were also identified as perpetrators of harassment.

Given that the most frequent occurrences of harassment are situations that involve jokes of a sexual nature, most of the women tend to answer in the same tone, by throwing the joke back to the harasser. A considerable number also choose to feign indifference. The proportion using anger to deal with the situation is much smaller, except among the secondary school graduates. Formal complaints are still very few. Women therefore seem to prefer subtle strategies. Given that they are a minority in the workplace, they probably feel that adjustment is preferable to confrontation to ensure their professional survival.

On the whole, the women interviewed did not seem to dramatize situations in which they were subject to harassment. At each level of education, more than nine out of ten workers said that sexist and sexual harassment was not a serious problem in the workplace.

HOWEVER...

It is apparent that good relations between the worker in a non-traditional job and her male colleagues are very dependent on the energy she herself invests in these relations. The respondents were of the opinion that it was because they proved themselves and worked hard that attitudes toward them improved. It is not certain that their male colleagues were subjected to the same type of test.

Table 7 — Incidence of Sexist and Sexual Harassment and Respondents' Evaluation of Its Seriousness

Forms of Harassment	Secondary	College	University
a) looks or jokes of a sexual nature	(n=121) %	(n=367) %	(n=352) %
often	11.6	15.4	6.0
sometimes	23.1	27.2	24.1
rarely	12.4	16.5	21.3
never	52.9	40.9	48.6
b) unwanted touching or propositions	(n=121) %	(n=367) %	(n=352) %
often	2.5	0.1	0.6
sometimes	2.5	5.3	3.7
rarely	7.4	10.6	8.2
never	87.6	84.1	87.5
c) sexual propositions accompanied by promises or threats	(n=118) %	(n=367) %	(n=351) %
often	0.8	0.0	0.0
sometimes	1.7	0.0	0.3
rarely	1.7	1.9	1.4
never	95.8	98.1	98.3

Respondents' Evaluation of Its Seriousness	Secondary (n=123) %	College (n=366) %	University (n=348) %
· very serious	3.3	2.1	0.9
· serious	6.5	5.0	2.9
· minor	20.3	27.7	25.9
· not a problem	69.9	65.2	70.4

It was also noted--even if it was not the case of the majority--that the women who did not conform to sexist stereotypes in terms of career choice and entry into the work force were nevertheless still confronted with a certain sex-directed division of tasks in their daily work. This division reflects sex-role stereotypes. Thus, in an architectural firm, it will most often be the women who water the plants, decorate the office or make photocopies of plans, and the men who negotiate contracts with clients. In forestry, it is the men who drive forwarders or skidders. In the butcher trade, it is most often the women who are asked to grind meat, serve at the counter or clean up on Saturdays, while men are most often called upon to buy and transport sides of beef. Some female surveying technicians are routinely assigned to do instrument readings, while their male colleagues are often assigned work outside the office or asked to conduct meetings with important clients. By the same token, the fact that at secondary school and college levels men are assigned certain tasks more often than women may have different interpretations. It is tempting to sympathize with the men, since these tasks, when combined with those common to the two sexes, must represent an unfair workload. But a different perspective would view the women as being excluded from job tasks that could be a source of challenge, personal fulfilment and professional recognition. It is likely that this division of tasks, far from being dictated by an optimal use of the resources offered by the two sexes, is founded on a paternalistic ideology in which "strong men" play the role of gallant knights who save "delicate and fragile women" from having to perform difficult tasks.

As for sexual harassment, even though a large majority of women in the workplace did not think it was a serious problem, the fact remains that one third of these women perceived it as a problem. Even if it was considered minor, it was one more problem on the list of obstacles that workers in non-traditional jobs could expect to encounter.

HIGH OVERALL SATISFACTION

While there are still very few women who dare to venture into the "male" professional world, those who have done so do not seem to regret it. In fact, nine out of ten women surveyed said they were satisfied or very satisfied with their jobs. Almost all of the respondents said they were satisfied working in a predominantly male field; about half of the respondents said they were "very satisfied" in this respect. When asked about their career plans, more than eight out of ten women surveyed said they would stay in the same field for the next three years. Most of those who envisaged a change said they would continue in a non-traditional job area, which also suggests a high level of satisfaction.

An analysis of the data (Table 8) indicates that relations with supervisors, co-workers and clients were a major source of satisfaction for most of the respondents. A second source was the prestige of the trade or profession for the secondary school and university graduates, and the actual tasks for the college graduates. This last aspect occupied third place for the secondary school and university respondents, whereas the work conditions took third place for the college graduates.

If these results are compared with those of surveys conducted among teaching personnel (Cormier et al., 1985) or support staff in the school boards and colleges (Payeur, 1988), the degree of job satisfaction of workers in non-traditional jobs seems, depending on the aspects under consideration, to be equivalent or superior to that of other women working in the educational system. As for dissatisfaction, it is slightly less widespread among workers in non-traditional jobs.

Table 8 — Respondents' Reported Level of Job Satisfaction

Job Characteristics	Secondary %					College %					University %				
	N	Good	Very good	Poor	Very poor	N	Good	Very good	Poor	Very poor	N	Good	Very good	Poor	Very poor
· salary	123	13.8	62.6	15.4	8.1	369	20.4	59.5	16.6	3.5	359	18.4	64.9	14.5	2.2
· working conditions	123	27.6	56.1	14.6	1.6	369	22.4	62.6	14.3	0.7	359	29.2	59.3	10.9	0.6
· tasks	123	21.1	67.5	8.9	2.4	369	21.8	69.0	9.2	0.0	356	27.2	64.0	8.1	0.6
· prestige	122	25.4	63.9	9.0	1.6	364	17.9	65.1	14.8	2.2	342	23.1	69.6	7.0	0.3
· work relations	122	33.6	61.5	4.1	0.8	369	32.4	60.9	5.5	1.2	358	34.4	60.6	4.5	0.6
· personal fulfilment	123	26.0	51.2	15.4	7.3	369	21.1	55.8	20.9	2.2	356	25.6	53.9	18.5	2.0
· compatibility with private life	120	25.0	57.5	14.2	3.3	368	19.8	61.9	17.5	0.8	355	23.7	55.8	18.0	2.5
. male-dominated field*	91	54.9	40.7	2.2	2.2	277	47.3	49.8	2.7	0.1	253	41.1	54.9	4.0	0.0
· overall job satisfaction	123	48.8	44.7	5.7	0.8	369	30.6	61.3	7.4	0.7	354	29.9	63.6	5.9	0.6

* About one respondent in four does not consider her field as being traditionally male, which explains why there are very few respondents for this item.

In addition, one quarter of the respondents said that they found none of the job tasks unpleasant, one more sign of their enthusiasm for their jobs. Design and problem-solving tasks occupied first place among agreeable tasks for graduates from all three levels of education. Among other things, these tasks included determining the level of priority for services, creating a program of activities, choosing materials, planning projects, being in charge of a dossier from start to finish, devising new methods, doing creative work. At the college and university levels, human relations duties (working in a team, helping people, having contact with the public) took second place. Among the secondary school graduates, technical tasks (analyzing products, measuring output, calibrating equipment) came second, followed closely by human relations duties. Mechanical and routine tasks came last for all three levels. Some examples of unpleasant tasks were: for a mining technician, doing the paperwork; for a butcher, grinding meat; for an architectural technician, correcting other people's plans; for an electro-technician, routine maintenance work; and for an architect, any sort of mindless, purely mechanical activity such as copying blueprints. Other tasks that were considered unpleasant varied according to the respondents' level of education.

The results concerning agreeable and unpleasant job tasks raise questions about certain preconceptions with regard to women's interests. Creative and problem-solving tasks, as well as technical tasks for the secondary school graduates, were most liked by almost half of the respondents at all three levels of education. On the other hand, mechanical and routine job tasks were least liked by respondents at all three levels. These findings indicate that the women surveyed appreciate job tasks involving responsibility and initiative. It is possible that this interest is not characteristic solely of women in non-traditional jobs, but that it is shared by all women, an indication that women's confinement in mechanical jobs at the bottom of the socio-professional ladder is due to factors other than their interest in repetitious functions and fear of responsibility.

HOWEVER...

A few aspects of the work nevertheless gave rise to dissatisfaction among a sizable minority of the women surveyed. Nearly one quarter of the secondary school and college graduates said they were dissatisfied or very dissatisfied with their salaries and possibilities for rewarding experiences. It has already been pointed out that the salaries for certain non-traditional jobs, especially in the case of the secondary school graduates, bordered on the poverty line, a situation that is bound to give rise to dissatisfaction. In other respects, it is difficult to gauge what could cause dissatisfaction with regard to opportunities for personal fulfilment. Could these women's expectations have been too high in this area? Can the fact that some women are consistently assigned mechanical and routine job tasks explain this phenomenon? The question is an open one. Slightly over one fifth of the university graduates felt that their jobs did not give them a sense of fulfilment, and experienced difficulties reconciling career and private life. It is possible that long work hours and extensive travel required in certain jobs were the source of their dissatisfaction.

AN UNCONTESTED CAREER CHOICE

The women surveyed gave a positive description of the training period that preceded their employment in a non-traditional job. About two thirds of the respondents chose their careers because they were interested in the field or liked certain aspects of the work or training. In short, they chose to go into the field because they liked it. Salary and job prospects seemed to have had very little influence on their choice of a non-traditional career. Family role models were not predominant. A large majority of respondents--six out of ten for secondary school and university graduates and eight out of ten for college graduates--did not know anyone studying or working in the field at the time they made their choice.

Table 9 – Individuals Who Influenced Respondents' Choice of Program

	Secondary			College			University		
Person Who Exerted Influence	attracted attention (n=123) %	encouraged (n=123) %	discouraged (n=122) %	attracted attention (n=368) %	encouraged (n=367) %	discouraged (n=366) %	attracted attention (n=357) %	encouraged (n=355) %	discouraged (n=353) %
· mother	0.0	5.7	2.5	0.6	2.6	4.3	0.3	5.1	2.5
· father	2.4	7.3	4.9	1.8	5.1	4.5	9.5	13.8	2.3
· mother & father	0.8	17.9	7.4	0.3	23.3	3.9	1.1	22.3	3.1
· other relative	9.8	8.1	4.1	6.8	6.3	1.7	5.6	6.2	3.4
· female friend	8.1	4.9	4.9	3.5	3.9	1.4	3.1	1.4	1.7
· male friend/spouse	0.8	4.1	1.6	5.2	4.4	2.1	7.0	9.3	1.7
· another student	3.3	2.4	2.5	1.5	1.7	1.7	5.9	2.5	2.0
· guidance or academic counsellor	30.1	5.7	2.5	30.1	2.2	3.1	5.0	0.6	1.4
· other school personnel	6.5	8.1	2.5	8.6	4.7	5.1	5.0	2.5	1.7
· reference material*	8.1	0.0	0.0	10.6	0.0	0.0	4.8	0.0	0.0
· "no one"	24.4	33.3	67.2	30.4	44.7	70.9	51.0	34.6	78.8
· other	5.7	2.4	0.0	0.6	1.1	1.3	1.7	1.7	1.4

* Despite the way the question was formulated, the respondents mentioned reference material (books, brochures) as being influential in their choice of a non-traditional field of study.

Table 9 shows that a large proportion of the respondents--about one quarter of the secondary school graduates, close to one third of the college graduates and half of the university graduates--said that "no one" had suggested they pursue the chosen field of study.

However, at the secondary school and college levels, guidance and career counsellors played a significant role in arousing the interest of female students in the chosen training program; university graduates mentioned fathers and spouses as having more influence.

Those who were encouraged ranked family members first as source of encouragement. More than one third of the secondary school and college graduates and close to half of the university graduates cited a family member as the person who offered the most encouragement. Parents occupied a privileged position in this respect. Attempts to dissuade, only half as frequent as shows of support, came primarily from family members. In summary, parents were the people most likely to make attempts to offer both encouragement and discouragement. This is not surprising since most students are minors when they choose their field of study. Parent participation in their children's decisions is a corollary of this fact.

HOWEVER...

Although it appears that most of the people in the respondents' milieu were generally open-minded in the latter's choice of occupation, it would be a mistake to generalize this situation to all female students who contemplate entering a non-traditional training program. It should be borne in mind that in cases where attempts to discourage their choices were successful, the women did not enter non-traditional occupations and hence were not included in the survey. Indeed, it is surprising how high a proportion of the respondents persisted in their career plans despite the lack of support from those close to them. About one quarter of the secondary school graduates, close to one third of the college graduates and half of the university graduates maintained that no one had attracted their attention to the chosen training program. More than one third of the secondary school and university respondents and close to half of the college-level respondents persevered in their choice of career without any kind of encouragement. Between one fifth and one third of the respondents, depending on the level of schooling, persevered despite attempts made by those around them to discourage them.

Another phenomenon is also worthy of attention. School personnel, notably guidance and academic counsellors, who had drawn the attention of a large number of the respondents at the secondary school and college levels to the chosen program, were rarely cited as a source of encouragement. While it is encouraging that they were virtually absent from the ranks of the opposition, it is regrettable that they were not more actively supportive of female students whose unusual career choices could create a heightened need for encouragement.

VIRTUALLY TROUBLE-FREE TRAINING

The education of many of the women surveyed was apparently free of serious problems. Close to one out of two respondents at the secondary school level, more than one out of four at the college level and one out of five at the university level experienced no difficulties during their training (Table 10). Those who did, however, cited difficulties that were primarily of a general nature, such as any student might experience. These difficulties included, among others, too many hours of courses, courses requiring too much studying or excessive emphasis on theory. Another major difficulty expressed by students was the poor quality of teaching and the unavailability of the professors.

Table 10 – Principal Difficulty Experienced during Training

Main Difficulty Experienced during Training	Secondary (n=121) %	College (n=361) %	University (n=350) %
· General difficulties	24.0	50.7	68.9
· Difficulties related to socialization of girls	14.9	10.5	4.3
· difficulties associated with nature of non-traditional job	15.7	10.7	6.8
· no perceived difficulties	45.5	28.1	20.0

As was done with respect to employment, the respondents were given a list of stereotypical difficulties associated with non-traditional training programs and asked to indicate the frequency with which they actually faced these difficulties. The results are shown in Table 11.

The first thing that stands out is that none of the eight stereotypical difficulties in the questionnaire elicited the answer "often" from a majority of the respondents at any of the educational levels. The respondents' answers demonstrated that some of the allegations concerning non-traditional training had a certain relevance, but that they did not present an accurate image of the everyday lives of most respondents.

Table 11 – Incidence of Difficulties Associated with Stereotypes of Non-Traditional Training Programs

Problems Encountered During Training Period	Secondary %					College %					University %				
	N	Often	Sometimes	Rarely	Never	N	Often	Sometimes	Rarely	Never	N	Often	Sometimes	Rarely	Never
· scarcity of girls in class	123	10.6	4.9	10.6	74.0	369	10.2	9.3	15.5	65.0	358	12.3	11.7	8.9	67.0
· scarcity of female professors	123	18.7	5.7	10.6	65.0	369	30.2	12.8	11.9	45.0	359	33.7	14.5	6.1	45.7
· sexual harassment from male students	123	11.4	12.2	16.3	60.2	369	10.1	17.5	25.2	47.2	359	3.9	13.4	20.6	62.1
· sexual harassment from instructors	123	2.4	8.1	6.5	82.9	369	3.9	12.8	21.7	61.6	359	1.7	7.5	18.9	71.9
· pressure to prove themselves	123	19.5	13.8	9.8	56.9	369	19.0	19.8	15.7	45.4	359	14.8	20.1	14.5	50.7
· unfamiliarity with tools	123	8.1	15.4	13.0	63.4	369	15.0	25.6	21.0	38.4	357	10.4	18.2	11.5	59.9
· lack of facilities for women	123	3.3	4.1	8.9	83.7	369	3.1	4.2	8.3	84.3	358	1.7	3.6	5.6	89.1
· no access to sports and recreational equipment	122	2.5	2.5	9.0	86.1	366	1.5	1.8	8.2	88.4	354	2.3	2.0	4.8	91.0

HOWEVER...

Nevertheless, a minority of respondents--close to one third of the secondary school graduates, more than one fifth of the college graduates and more than one tenth of the university graduates--experienced difficulties due to their social conditioning or the non-traditional nature of their program.

The difficulties related to the socialization of girls can be attributed primarily to the respondents' lack of prior technical experience: some of them found it difficult to master technical terms, particularly in the first year, while others had problems becoming accustomed to handling tools they had never used before. Lack of prior experience distinguished the male and female students; the latter started from zero, whereas boys usually had a certain technical background due to their socialization. Difficulties related to the non-traditional nature of the field mainly concerned relations with male students in class. Complaints included "being tense because the guys were on our backs all day long," "having to put up with their stupid jokes," "being the only girl in class and having to deal with their prejudices all alone," "the competition." Other respondents had observed signs of sexism on the part of their teachers: they had to prove themselves, were not taken as seriously as male students, had to cope with certain "narrow-minded teachers who did not believe that a woman could succeed in their field." The lack of female classmates and female teachers, sexual harassment on the part of clients during practicums, poor health and safety conditions in workshops and the increased need for physical strength due to inadequate equipment were occasionally mentioned as well.

However, while some of the difficulties imputed to non-traditional vocational training turned out to be less prevalent than expected, the respondents reported other obstacles during their training. Table 11 shows that the stress of having to prove themselves, the scarcity of female teachers and their own lack of familiarity with the equipment created problems for a significant minority of respondents. In addition, it seems important to mention the less common difficulties, namely, sexual harassment from male students and teachers, lack of female classmates and lack of adequate or accessible equipment, as these may discourage some women from pursuing a non-traditional career.

EQUAL TREATMENT

Table 12 shows that the school setting seems quite open to the presence of female students. For more than nine out of ten respondents, male classmates reacted favourably, or very favourably, to their presence in the classroom. The majority of these respondents felt accepted right from the beginning. On the whole, they felt they were treated on an equal footing with the boys; some even had the impression they received more help from their teachers than their male classmates did. A very large majority of respondents did not notice a sex-directed division of tasks during their training. Respondents who cited sexist and sexual harassment as presenting a serious problem for female students in their field were rare.

HOWEVER...

Acceptance from male classmates did not come right away for a large number of the women surveyed. For more than one third of the secondary school and college graduates and for more than one quarter of the university graduates, acceptance was not immediate. In most cases, female students gained acceptance within a few weeks, during which time they either waited patiently, proved their abilities or used humour or anger to deal with the situation. However, some waited months and, more rarely, even a year or more; others felt that they were never accepted.

Table 12 – Respondents' Assessment of Male-Female Relations during Training

Quality of Male-Female Relations	Secondary %		College %		University %	
	N		N		N	
· favourable or very favourable reaction (students)	121	90.9	358	94.1	344	96.8
· immediate acceptance by students	123	65.0	363	65.6	355	71.5
· help from teachers equivalent to that offered to boys	123	83.7	367	82.6	353	89.2
· assignment of tasks specific to girls	123	11.5	369	7.9	356	8.4
· assignment of tasks specific to boys	122	26.2	367	15.4	356	5.1
· sexual harassment: serious or very serious problem	123	9.8	369	7.5	358	3.7

Although sex-directed task assignment occurred only in the case of a minority of respondents, it indicates that education can sometimes deepen the rifts that already exist in the cultural stereotyping of boys and girls. The tendency to assign small tasks and office duties to girls and, above all, to reserve work requiring physical strength, technical ability or decision making for boys, would seem to suggest that girls are being deprived of opportunities for learning and for building self-esteem.

VARIATIONS IN EXPERIENCE IN RELATION TO LEVEL OF EDUCATION

The overview presented above can be qualified by the addition of details concerning the specific conditions of respondents at each of the three levels of education; the survey brought to light considerable variation in this connection.

With respect to employment status, the university graduates had the largest proportion of permanent jobs, and college graduates, the smallest proportion. The level of union membership was only half as high among university graduates as at the secondary and college levels; this may be due to the fact that a larger proportion of university graduates were either self-employed or in management positions. Income also varied considerably, depending on the level of education; for secondary school graduates, the average income ranged from $10,000 to $14,999, for college graduates it was $5,000 higher; and for university graduates it was $15,000 higher still. Thus, the findings confirm the old adage that "education is the key to success." It was also observed that university graduates worked longer hours: over one quarter of the respondents worked more than 44 hours per week.

Access to training rose with the level of education: the higher the respondents' level of education, the greater the reported number of opportunities for training offered by their employer. The proportion of respondents who had taken courses since obtaining their diploma also increased with the level of education; a greater interest in education on the part of the more highly educated respondents, and consequently a greater tendency to ask their employer for training or to take courses on their own initiative could explain these differences. Promotions were rarest among college graduates, which may be because advancement criteria in most firms favour the transition from specialized worker to technician, and from professional to manager, over that from technician to professional.

There were also differences with respect to the physical conditions in which non-traditional occupations were practised. The higher the respondents' level of education, the fewer the difficulties popularly attributed to non-traditional work they were likely to encounter; this suggests that the stereotypical notion of non-traditional occupations, though still exaggerated, applies more to the situation of the secondary school and college graduates than to that of university graduates. Secondary school graduates more frequently had to do dirty work or work requiring physical strength or involving exposure to health hazards. However, college graduates more often faced excessive workloads or intense stress. The difference in working conditions also influenced the possibility of reconciling pregnancy and professional activity; about half the secondary school and college graduates considered it impossible for a woman who was six months pregnant to perform their job, whereas at the university level, the proportion who held this opinion was only one in ten. The proportion of respondents who noted a sex-based division of tasks was appreciably lower at the college level than at the secondary level, and was lower still among university graduates. The higher incidence of stereotypical "men's work" in jobs held by secondary and college graduates, such as dirty work or work requiring physical strength or involving health risks, probably explains the greater tendency towards a sexual division of tasks at these two levels.

Turning our attention to human relations on the job, sexist and sexual harassment in the workplace were more common among college graduates, almost half of whom sometimes or often received crude looks or were the targets of sexual jokes, whereas only about a third of the secondary school and university graduates found themselves in this situation. At all three levels, but especially at the college level, harassment by co-workers was the most widespread; a larger proportion of secondary school graduates that of other respondents cited supervisors, and university graduates had more problems than others with clients. These differences may be attributed to differences in the kinds of jobs held by respondents, some jobs placing them in greater contact with supervisors, some with co-workers, and others with clients.

Job satisfaction was high in general, but highest for secondary school graduates. The proportion of respondents in this group who maintained that they were very satisfied both with their jobs and with working in a male-dominated field was the largest of the three groups, and they also reported more frequently than respondents from other levels that they enjoyed all their tasks at work and disliked none. It seems plausible that women with high school diplomas derive more advantages from their non-traditional choices than women at higher educational levels. The fact that many of their classmates were unemployed or in traditional jobs probably also contributed to their positive evaluation of their situation.

Turning to the subject of training, the involvement of peers, family and school personnel varied according to the respondents' level of education. University graduates had the highest proportion of respondents claiming than no one had brought their training program to their attention. Almost a third of the secondary school and college graduates reported that school guidance and academic counsellors had first interested them in their program, while university graduates cited their fathers twice as often as school personnel. College graduates had the fewest personal acquaintances in their future occupation to serve as role models. It was at the secondary level that respondents cited female role models most frequently, mainly because the respondents had friends already involved in the field. At the college and university levels, role models were more consistently male: friends and partners in the first case, and fathers in the second. College graduated had received the least encouragement from their entourage; almost half considered that they had not had any at all, compared with about a third at the secondary and university levels. Efforts by individuals close to the respondents to dissuade them from their career choices also diminished in frequency as the level of education increased.

The higher the level of education, the less likely classrooms tended to be male-dominated; more than two thirds of secondary school respondents, and more than half of the college graduates claimed that their classmates were predominantly male, but fewer than a third of the university graduates did so. The sexual division of tasks also decreased as the level of education increased; the pattern was the same with respect to the situation in the workplace.

As for difficulties experienced during their training, all the respondents reported pressure to prove themselves, but more college graduates than others cited their lack of familiarity with equipment, and both college and university graduates mentioned the lack of female instructors. Secondary school graduates seem to have been spared many of the difficulties the others encountered. Almost half had not had any problems worth reporting, compared with slightly over a quarter of the college graduates and only one-fifth of the university graduates. Also, whereas the university graduates' problems had been almost exclusively of a general nature, college graduates reported a somewhat higher incidence of problems associated either with the socialization of girls or with the non-traditional nature of the training program, and at the secondary level, such problems took precedence over general difficulties.

On questions of social relations in the training program, secondary school graduates had the most positive reaction from their male classmates to their presence in the classroom. However, university graduates were apparently accepted the most readily.

VARIATIONS IN EXPERIENCE IN RELATION TO OCCUPATION

Even at the same level of education, the experience of female workers varied widely depending on the workplace, the job performed and the training program followed.

Among secondary school graduates, drafting technicians enjoyed several advantages: in addition to having the best salary, they rarely had to work in isolation, do dirty jobs or perform work requiring physical strength. More than three quarters of them thought they could perform their professional duties while pregnant. Women in printing and manufacturing industries reported more difficult working conditions. For example, more than a third sometimes or often experienced isolation or did physically demanding work, nearly three quarters had to perform dirty jobs and only half felt that they could carry on as usual if they were six months pregnant. Butchers worked the day shift less often and were not as well paid as other secondary level graduates. They experienced little isolation, but tasks requiring physical strength and dirty work were the norm for them. Four out of five considered it out of the question to perform their usual tasks if they were six months pregnant. The proportion of butchers who were union members, however, was twice as high as that of secondary school graduates in other occupations.

The findings with regard to training seemed to be more homogeneous. However, a few differences were noted in the results, depending on the training program followed by the respondent. A larger proportion of graduates of technical drafting programs had taken courses since graduating than of respondents in other occupations at this level. Photography and printing graduates had received less encouragement from their family and friends than graduates of other programs, and graduates in meat-cutting reported the most extreme sex-based division of tasks.

Among college graduates, architectural and engineering technicians felt better able to reconcile pregnancy with their job responsibilities than other respondents. Physical science technicians were most exposed to health hazards and often had to perform dirty jobs as well; nine out of ten said that pregnancy would pose problems in their line of work. The respondents who took the most courses after graduating were the physical science technicians. The partners of biological and agricultural technicians showed the greatest openness towards their careers, but respondents in these occupations were also the least likely to hold permanent jobs, had received few promotions and most frequently had to do dirty work and work requiring physical strength. Police officers had the highest salaries and the highest rage of union membership, and a large proportion had taken courses since obtaining their diplomas. However, they also had the most irregular hours and the fewest promotions of any occupational group at this level, registered the most scepticism about being able to perform their regular tasks while pregnant, received the least moral support from partners, and suffered the highest incidence of sexual harassment, mainly by co-workers. Respondents in sales and services were the least unionized of the college graduates and had to travel outside their region more than other respondents at this level, but they also enjoyed certain advantages: they were rarely exposed to health hazards; most thought that continuing to work as usual while pregnant would not pose much of a problem; they got a great deal of positive feedback when they succeeded; and, finally, they were promoted more than other respondents at the same level of education.

Graduates in chemical technology and administrative technology had the lowest incidence of difficulties associated with stereotypes of non-traditional programs, such as sexual harassment, pressure to prove themselves, and unfamiliarity with the tools of the trade. These problems were most widespread for graduates of programs in electrotechnology and architecture and engineering. In addition, graduates of electrotechnology more markedly experienced sexual harassment from male students, the lack of female classmates, and difficulties typically associated with non-traditional programs such as lack of technical experience or poor relations with male classmates. Graduates of police technology programs received a relatively poor welcome from male students and experienced a good deal of harassment from the same source.

Among the university graduates, accountants had the highest incidence of permanent employment and one of the shortest work weeks. However, they had the lowest level of union membership and the lowest salaries. Lawyers and notaries put in the longest and most irregular hours. The proportion of these women who belonged to unions was low, as were their salaries, and they reported more stress and greater isolation than other university graduates. Administrators had permanent jobs almost as often as accountants, and shared with mathematicians and economists the highest level of satisfaction with their working conditions. They ranked just after doctors and dentists with respect to enthusiasm for their jobs in general. There is little to distinguish the architects and engineers from the average, save perhaps a relatively low proportion of permanent jobs and their long hours. Doctors and dentists earned the highest salaries and, despite having the most irregular hours, had the highest rate of job satisfaction. Mathematicians and economists had the shortest hours and usually worked days, experienced the least stress, had a high rate of union membership, and were generally very satisfied with their working conditions. However, they had the lowest proportion of permanent jobs, experienced the greatest isolation, and registered the lowest overall job satisfaction.

With respect to training, graduates of applied science programs had the fewest role models before choosing their field. In addition, they suffered most from a scarcity of female classmates, unfamiliarity with the equipment, and slow acceptance by their male fellow students.

VARIATIONS IN EXPERIENCE IN RELATION TO RATE OF FEMALE PARTICIPATION IN OCCUPATION AND TRAINING PROGRAM

It seems reasonable to suppose that women working at occupations in which they were a very small minority would tend to have the most numerous and the most serious problems. The investigation of the relationship between the rate of female participation and the respondents' experience in their jobs or training programs was based on this hypothesis.

The occupational situation of secondary school and college graduates does not appear to have varied as a function of the rate of female participation in their occupation. Among university graduates, however, respondents in occupations where women represented less than 20% of the work force were the least likely to have permanent jobs and the most likely to work over 35 hours a week. One plausible explanation is that in occupations with few women workers, the schedules are set up to suit the men, whose hours can be extended precisely because they have women at home taking care of family responsibilities.

There was a clearer relationship between rate of female participation and the respondents' experience with respect to training programs. At the college level, the extent to which respondents experienced several difficulties was inversely proportional to the rate of female participation in the specific program; in other words, the lower the proportion of women in a program, the higher the incidence of these difficulties. The same was true of efforts to discourage female students from making non-traditional career choices, the assignment of certain tasks to male students only, the lack of female classmates, sexist and sexual harassment, the pressure to prove their worth, unfamiliarity with equipment, the slowness of acceptance by male students, and sexual discrimination during the job search. Most of these difficulties diminished considerably when the proportion of female students in a program exceeded a third.

University graduates from programs with fewer than 30% women were more likely to experience a scarcity of female classmates and inadequate familiarity with the equipment, and were also more apt to cite as their chief difficulty the fact of being a woman in a male-dominated field.

POSSIBLE AND NECESSARY CHANGES

If, on the whole, the results of this survey of women in non-traditional occupations provide grounds for optimism, they also raise serious questions. On the one hand, it can be observed that for nine out of ten working women, everything is working out fine. On the other hand, there is one chance in ten that a woman in a male-dominated occupation will have to cope with hostility from a co-worker, supervisor or mate, or that she will not be well received; there are three chances in ten that she will be subjected to sexist harassment and one chance in ten that she will experience a serious problem with sexual harassment; one chance in ten that her opinion will be accorded less weight than that of male colleagues; one chance in ten that she will have fewer opportunities for promotion than men in the same job; there are two chances in ten that being a woman will pose obstacles to her career; there is one chance in ten that her family will discourage her from choosing a non-traditional occupation. The picture is certainly less encouraging when viewed from this angle. This perspective brings to light several areas of training that could be improved. A few examples are listed below.

- The study highlighted the important role that parents play in girls' non-traditional career choices. The family was the main source of both support and opposition; the same is true of professional role models. These finding suggest that parents should be made more aware of issues pertaining to non-traditional careers for their daughters and that their experience should be put to good use in identifying problems and in searching for ways to improve girls' access to non-traditional fields.

- The study indicated that, in a good number of cases, school personnel sparked the student's interest in a non-traditional career. However, once this interest was aroused, encouragement on the part of the school milieu was almost nonexistent; college graduates even reported that they had received more opposition from school personnel than from peers. These findings suggest that guidance counsellors and career-choice educators should be given intensified training and provided with the means to offer female students support in other ways than by simply conveying information. The survey also showed that other categories of school personnel had a very minor role in interesting students in non-traditional programs. One suggestion would be to enlist the help of science, technology and vocational teachers in this area.

- Almost two thirds of the respondents did not know anyone studying or working in their field at the time they made their career choice. Schools should make a concerted effort to compensate for the absence of female role models in many jobs. Some suggestions would be: inviting female guest speakers working in non-traditional occupations or students enroled in non-traditional career programs into the classroom to talk about their experiences, citing distinguished women in non-traditional fields in the school's programs of study and educational publications, and arranging student outings to non-traditional training workshops or places of work.

- As for relations between male and female students, while the situation is by no means dramatic in all cases, the fact that, for example, one out of three students at the college level is subjected to sexual harassment by her male fellow students, or that one out of ten secondary school students is poorly received by the boys in the classroom, should not be tolerated. Schools can take measures that will enable female students to devote their energies to their studies rather than to survival strategies. Such measures include educating boys to deal positively with the presence of girls in their classes, lending support to the creation of a mutual help network for female students in non-traditional disciplines, establishing criteria for what constitutes sexual harassment and providing mechanisms enabling victims of sexual harassment to seek effective recourse.

- This study showed that several of the difficulties experienced by students in non-traditional sectors diminished with greater enrolment of girls in the programs. It therefore seems urgent to step up the recruitment of female students in programs where they are clearly a minority. Also, care should be taken to avoid isolating female students in classes or schools that have predominantly male attendance. At the local level, the school administration should pay special attention to the sexual composition of classes, placing all girls enroled in a non-traditional program together in one class. Where this is not possible, care should be taken to prevent situations in which female students form a small, isolated minority in classes or schools. For example, a buddy system set up with students of the previous year or from another non-traditional program could serve to counteract the lack of female fellow students in the program.

In summary, although considerable progress has been made where women's access to non-traditional careers is concerned, there is still much to be done towards eliminating the obstacles they meet on the way. One thing is clear: it will be easier to encourage women to enter areas they have avoided until now if they can be assured of pleasant and non-discriminatory training and employment conditions. It is time to take action.

Gouvernement du Québec
Ministère
de [illegible]

POSITIVE AND NEGATIVE ASPECTS OF WOMEN'S EXPERIENCE IN NON-TRADITIONAL OCCUPATIONS

A SURVEY OF YOUNG WOMEN IN NON-TRADITIONAL OCCUPATIONS;
THEIR EXPERIENCE AS STUDENTS IN MALE-DOMINATED PROGRAMS
(SECONDARY, COLLEGE AND UNIVERSITY LEVELS)
AND THEIR WORKING CONDITIONS

Québec

Coordinator

Michèle Berthelot
Coordination à la condition féminine
Ministère de l'Éducation du Québec

Authors

Michèle Berthelot
Nicole Coquatrix

Translation

Wendy Mill, with the assistance of other members of the Education Development in the English language translation team, Coordination du développement pédagogique en langue anglaise.

© Gouvernement du Québec
Ministère de l'Éducation, 1989 - 9091-0030

ISBN 2-550-14985-8

Legal Deposit - Second Quarter 1990
Bibliothèque nationale du Québec

ACKNOWLEDGEMENTS

Special thanks to the young women in non-traditional fields who agreed to answer our questions. Their good will, not to mention their creativity, has been a great asset. Thanks also to all those who participated in various stages of the project: Claudine Roy, who reviewed the literature; Louise Sylvain, who established the first draft of the statement of perspective and the questionnaire; Philippe Ricard and his team at the Bureau d'études sociographiques, for sample selection, data collection, and data processing.

We also wish to thank certain colleagues and specialists in non-traditional fields of work, who read earlier versions of the report. Finally, to all those who helped make possible the present report: thank you.

NOTE

In reading the document that follows, please bear in mind the following factors:

Presentation of Statistical Tables

Data was collected from three populations (secondary school, college, and university graduates), using three separate files. To ensure the statistical representativeness of samples from each group, the results were analyzed and tabulated separately for each educational level. To make the tables easy to read, the numbers have been eliminated; only the percentages appear in the tables, along with the total number of respondents for each question. The figure for the latter is not always identical to the total number involved in the survey, as certain questions concern only some of the respondents, and also because both missing and problematic answers have been eliminated.

Linguistic Compromises

In the interest of readability, certain formulations have been abbreviated. For example, "secondary school respondents" is used in place of "persons with secondary school diplomas who answered the survey".

Limitations of the Report

This report includes only the bare essentials of the research survey's findings. The statement of perspective, the methodological approach used, the review of the literature and the results of the multivariate analyses are only touched on here. Readers who are interested in receiving a copy of the original survey questionnaire may write to the address below.

Both the present document, and a summary of the findings, entitled **Positive and Negative Aspects of Women's Experience in Non-traditional Occupations: Highlights**, are available from:

Coordination à la condition féminine
Ministère de l'Éducation
1035, rue De La Chevrotière
Édifice Marie Guyart, 24e étage
Québec (Québec)
G1R 5A5
Téléphone: (418) 643-3241

TABLE OF CONTENTS

Page

ACKNOWLEDGEMENTS i

NOTE i

INTRODUCTION 1

CHAPTER 1 SOCIAL AND DEMOGRAPHIC PROFILE OF THE RESPONDENTS 5

1.1 Age 5

1.2 Marital Status 5

1.3 Children 6

1.4 Parents' Ethno-linguistic Background 7

1.5 Family Composition 8

1.6 Socio-economic Level of Parents', Partners' and Respondent's Occupations 9

1.7 Parents', Partners' and Respondents' Employment Sector . . . 12

CHAPTER 2 THE RESPONDENTS' EXPERIENCE OF NON-TRADITIONAL EMPLOYMENT . . 15

2.1 Occupational Situation 15

2.1.1 Length of Employment 15
2.1.2 Types of Occupation 15
2.1.3 Employer 18
2.1.4 Job Security 19
2.1.5 Union Membership 20
2.1.6 Income 21
2.1.7 Hours Worked and Work Schedule 22

2.2 Physical Working Conditions 24

2.2.1 Incidence of Certain Job Characteristics 24
2.2.2 Pregnancy 28
2.2.3 Agreeable and Disagreeable Tasks 29
2.2.4 Sexual Division of Tasks 33

2.3 The Human Environment 35

2.3.1 Gender Breakdown of the Work Group 35
2.3.2 Reception by Male Co-workers 37
2.3.3 Reactions to Respondents' Errors, Successes and Opinions . . 39
2.3.4 Respondents' Relations with Their Supervisors 42
2.3.5 Sexist and Sexual Harassment 43
2.3.6 Further Training and Advancement 48

2.4 Job Satisfaction 52

2.4.1 Satisfaction with Specific Aspects of Their Jobs 53
2.4.2 Satisfaction with Working in a Traditionally-Male Field . . . 55
2.4.3 Career Plans 56
2.4.4 General Job Satisfaction 58

2.5 Hiring Conditions and Job Security 59

2.5.1 Hiring Conditions 59
2.5.2 Qualities Leading to Success in Non-traditional Jobs 61
2.5.3 Attitudes of the Respondents' Partners 63
2.5.4 Participation in Traditionally-Male Sports or Social Activities 64

CHAPTER 3 TRAINING IN A NON-TRADITIONAL PROGRAM 67

3.1 Access to Training 67

3.1.1 Reasons for Choosing a Non-traditional Program 67
3.1.2 Individual Responsible for Bringing the Training Program to Respondents' Attention 68
3.1.3 Personal Contacts in the Field 70
3.1.4 Family and Friends: Source of Support or Opposition 71

3.2 Conditions of Female Students in Non-traditional Programs . . 73

3.2.1 Types of Programs 73
3.2.2 Gender Composition of Respondents' Classes 75
3.2.3 Sexual Division of Tasks during Training 76
3.2.4 Incidence of Difficulties Associated with Stereotypes of Non-traditional Training Programs 78
3.2.5 Reception by Male Classmates 81
3.2.6 Help from Teachers 83
3.2.7 Sexist and Sexual Harassment 84
3.2.8 Principal Difficulty Experienced during Training 85
3.2.9 Main Factor Leading to Success in a Non-traditional Training Program 88

CHAPTER 4 SUMMARY AND RECOMMENDATIONS 91

4.1 Summing Up 91

4.1.1 A Generally Satisfactory Situation, with Room for Improvement 91
4.1.2 Different Experiences at Different Educational Levels 94
4.1.3 Variations in Experience by Occupation and Training Program . 98
4.1.4 Variations in Experience Based on the Rate of Female Participation in Occupations and Training Programs 100

4.2 Measures Proposed by the Respondents for Encouraging Non-traditional Career Choices 100

4.3 Realistic Proposals for Necessary Change 102

4.3.1 Making Non-traditional Careers More Accessible 103
4.3.2 Improving Conditions for Female Students in Non-traditional Programs 106
4.3.3 Easing the Transition from School to Non-traditional Work . . 109
4.3.4 Improving the Situation of Women in Non-traditional Jobs . . 111

CONCLUSION 113

APPENDIX 1 THE RESPONDENTS' JOBS: BREAKDOWN OF THE OCCUPATIONAL CATEGORIES IN TABLE 10 115

APPENDIX 2 TRAINING PROGRAMS FOLLOWED BY THE RESPONDENTS: BREAKDOWN OF PROGRAM CATEGORIES IN TABLE 54 119

BIBLIOGRAPHY 123

LIST OF TABLES

Page

In all tables, the data is presented by educational level.

TABLE 1 - Age of Respondents 6
TABLE 2 - Marital Status 6
TABLE 3 - Children 6
TABLE 4 - Parents' Linguistic Background 7
TABLE 5 - Composition of Respondents' Families 8
TABLE 6 - Socio-economic Level of Parents', Partners' and Respondents' Occupations 10
TABLE 7 - Parents', Partners' and Respondents' Employment Sector 13
TABLE 8 - Respondents' Status with Respect to Non-traditional Employment 15
TABLE 9 - Length of Time at Present or Most Recent Non-traditional Job . 16
TABLE 10 - Types of Occupation 17
TABLE 11 - Average Rate of Female Participation in the Respondents' Occupations 17
TABLE 12 - Present Employer; Type and Size of Firm or Organization . . . 18
TABLE 13 - Economic Sectors of Firms 19
TABLE 14 - Respondents' Employment Status 19
TABLE 15 - Union Membership 20
TABLE 16 - Annual Income in 1986, by $5000 Increment 22
TABLE 17 - Hours Worked per Week 23
TABLE 18 - Work Schedule 23
TABLE 19 - Incidence of Job Characteristics Associated with Stereotypes of Non-traditional Occupations 26
TABLE 20 - Causes of Intense Stress at Work 27
TABLE 21 - Respondents' Opinions on Compatibility of Their Tasks with Pregnancy 28
TABLE 22 - Agreeable and Disagreeable Tasks 31
TABLE 23 - Incidence of Sexual Division of Tasks and Nature of the Tasks 33
TABLE 24 - Gender Breakdown of Co-workers and Clients 35
TABLE 25 - Sex of Respondents' Supervisors 36
TABLE 26 - Respondents' Reception by Male and Female Co-workers 37
TABLE 27 - Evolution of Attitudes towards the Respondents 38
TABLE 28 - Reasons Why Attitudes towards Respondents Improved 38
TABLE 29 - Male Co-workers' Reactions to Respondents' Errors 39
TABLE 30 - Male Co-workers' Reactions to Respondents' Successes 40
TABLE 31 - Comparison of Reactions to the Respondents' Professional Opinions and Those of Male Co-workers 42
TABLE 32 - Respondents' Reactions when Their Opinions Counted Less than Those of Male Co-workers 42
TABLE 33 - Quality of Relations with Supervisors 43
TABLE 34 - Incidence of Sexist and Sexual Harassment 44
TABLE 35 - Perpetrator of Most Recent Act of Harassment Experienced by Respondent 45
TABLE 36 - Respondents' Reactions to Most Recent Harassment 46

TABLE 37 - Respondents' Evaluation of the Seriousness of Sexist and Sexual Harassment at Work 47
TABLE 38 - Respondents' Evaluation of Their Own Access to Continuing Education and That of Their Male Co-workers 48
TABLE 39 - Level and Subject of Courses Taken since Graduation 49
TABLE 40 - Promotions Received and Respondents' Evaluation of Their Own and Male Co-workers' Advancement Opportunities 51
TABLE 41 - Respondents' Satisfaction with Specific Aspects of Their Jobs 54
TABLE 42 - Respondents' Views on Traditionally-Male Nature of Their Occupations, and Satisfaction with This Aspect 55
TABLE 43 - Career Plans 57
TABLE 44 - General Job Satisfaction 58
TABLE 45 - Factor Most Helpful to Respondents in Finding Work 60
TABLE 46 - Respondents' Evaluation of the Influence of Being a Woman on Their Job Search 61
TABLE 47 - Key Quality for Success in Respondents' Jobs 62
TABLE 48 - Partners' Attitudes Concerning the Respondents' Careers . . . 63
TABLE 49 - Traditionally-Male Sports or Social Activities 64
TABLE 50 - Principal Reason for Respondents' Choice of Program 68
TABLE 51 - Individual Responsible for Bringing the Program to Respondents' Attention 69
TABLE 52 - Personal Contacts in the Field Chosen; Their Sex and Relation to Respondents 71
TABLE 53 - Individuals Who Most Encouraged or Discouraged the Respondents' Choice of Program 72
TABLE 54 - Types of Training Programs 74
TABLE 55 - Average Rate of Female Participation in the Programs 75
TABLE 56 - Respondents' Evaluation of Proportion of Male and Female Students in Their Courses 75
TABLE 57 - Sex of Teachers of the Respondents' Courses 76
TABLE 58 - Incidence of Sexual Division of Tasks in the Respondents' Courses and Nature of the Tasks Involved 77
TABLE 59 - Incidence of Difficulties Associated with Stereotypes of Non-traditional Training Programs 79
TABLE 60 - Reception by Male Classmates 81
TABLE 61 - Amount of Time for Respondents to Be Accepted by Male Classmates, and Reasons for Acceptance 82
TABLE 62 - Help the Respondents Received from Teachers, Compared with Help Male Students Received 84
TABLE 63 - Respondents' Evaluation of the Seriousness of Sexist and Sexual Harassment at School 85
TABLE 64 - Principal Difficulty Experienced during Training 86
TABLE 65 - Main Factor Leading to Success in a Non-traditional Program . 88
TABLE 66 - Measures Proposed by the Respondents for Encouraging Non-traditional Career Choices 101

INTRODUCTION

Josée is a horticulturalist, Gail a technican in analytical chemistry, Anne-Marie an engineer, Anita a film stripper. They all have something in common: they do work that is usually done by men. Their jobs are non-traditional ones for women. People react to these women workers with interest, admiration, hostility, or even pity, depending on how they picture their lives at work.

What are working conditions like for women in non-traditional jobs? What kind of training do they have? How do they feel about their work; what do they like and dislike about it? What obstacles have they encountered, and how have they overcome them? Until now, there have been only sketchy answers to these questions, based on preliminary research, for the most part American, and usually focussed on the learning phase. As long as that was the case, myths originating in the dramatic circumstances of one unlucky woman worker or in the exceptional achievements of a superwoman could retain a certain currency.

In 1986, to help clear up some of the mystery surrounding women in non-traditional occupations, the ministère de l'Éducation du Québec decided to undertake a survey; the present document summarizes the results of that research. The survey, together with in-service workshops offered concurrently to secondary school personnel, is part of a plan of action designed to encourage girls to choose non-traditional career programs and persevere through the whole training period, as well as to help them find jobs in non-traditional sectors after completing their schooling.

Several factors prompted the ministère de l'Éducation's decision to make non-traditional careers the focus of its 1985-1988 action plan concerning the status of women. By the mid-1980s, the persistent reliance of most girls on traditional career choices began to have alarming implications for the future. According to most predictions, technological change would lead to a sharp decline in jobs in the service sector, which was still attracting large numbers of women. Similarly, many employment specialists considered that the social sciences, the arts and literature, fields that attracted many women, represented career choices with a limited future. It was also apparent that women could derive many advantages from entering traditionally-male fields of employment. Such jobs are generally better paid and offer superior working conditions, a higher proportion of full-time jobs, greater job security, better chances for advancement, and a higher rate of unionization. In addition, several surveys of women in non-traditional fields have documented their high level of job satisfaction.

These factors made it clear that access to non-traditional employment constitutes a crucial step towards the achievement of equality in employment for women. The ministère de l'Éducation adopted this objective as part of its mandate to educate young people and prepare them for employment. The decision to do research on the experience of women in non-traditional occupations grew out of this objective: it was necessary for the Ministère to learn what problems such women encountered during their schooling and on the job, in order to provide educational services that would eliminate some of the obstacles or help students overcome them. In addition, the high points of these pioneers' experience could provide the Ministère with useful ammunition for its efforts to attract girls to non-traditional careers.

Technical Details

For purposes of data collection, the research team, following the practice of Employment and Immigration Canada, considered **non-traditional any job in which the work force was less than 33.3% female** as of the 1981 census, the last for which results were available.[1] The original objective, to create a statistically representative sample of Québec women in non-traditional jobs, was thwarted by the absence of a list from which to draw the sample. An indirect method of selection was used instead, based on lists of graduates of training programs that could lead to non-traditional employment, with the exception of those programs that already had 50% or more women students. The resulting population was further screened by administering the questionnaire only to graduates who actually held a non-traditional job. The population under study consists of French- and English-speaking graduates of secondary- or college-level public or private schools, for the years 1979-1983, plus university graduates for 1980 and 1982.

A statistically representative sample was drawn from the population under study, for each level of instruction, using a random sampling technique. In order to test certain hypotheses concerning the rate of female participation, it was necessary to ensure, during the sampling process, that a group large enough for statistically significant results would still be available if the samples were ranked by rate of female participation in each training program.[2] This explains why the sample of secondary school graduates was not ranked; the population under study was too small to be broken up. **In all, 851 women holding non-traditional jobs answered the questionnaire: 123 were secondary school graduates, 369 college graduates, and 359 university graduates.** The reason why the number of secondary school graduates is much smaller than that of college and university graduates is that a high proportion of secondary school graduates were unemployed, or held traditional jobs, at the time of the survey.

The data was collected in 1986. Each graduate reached by telephone was screened by means of a questionnaire to determine whether she held a non-traditional job. If so, she was invited to participate in the survey. The 75 items of the questionnaire required a telephone interview of about 20 minutes to complete. The SPSS/PC+ program was used to process the data. The verbatim text of the answers to the questions was submitted to textual analysis. The statistical significance of observed relationships between variables was measured by means of the chi-square test. Due to problems encountered in ranking the college graduates, the results for that group had to be weighted so that each level would reflect its weight in the population.

---

[1] A new list of non-traditional occupations was drawn up subsequently, on the basis of the 1986 census. It differs little from the list used here; the 1981 list contained 338 non-traditional occupations, that of 1986, 331.

[2] The rate of female participation is the percentage of women present in a mixed group.

Since the purpose of the present document is to make the results of the survey accessible to a large number of readers, many of the methodological details have been eliminated, as have the review of the literature and documentation, and the texts and tables of the multivariate analysis.

Chapter 1 presents the socio-demographic profile of the respondents.

- How old were they?
- How many were married; how many had children?
- What were their ethnic origins?
- Did they come from large families?
- Did they have mainly sisters, or mainly brothers?
- What was the socio-economic status of their families?
- What kinds of jobs did their partners hold?

In Chapter 2, the report moves closer to the heart of the subject matter, focussing on the experience of women working in non-traditional fields. It considers:

1) Their occupational situation:
- What work did they do?
- How long had they been doing it?
- Were they in the public or the private sector?
- Did they have a permanent or a temporary job?
- Was it full- or part-time work?
- Did it concern the primary, secondary or tertiary sector?
- Were they unionized?
- How much did they earn?

2) Physical working conditions:
- How often did they have to perform tasks corresponding to the stereotype of non-traditional work as dirty, requiring great physical strength, necessitating a lot of moving around, and so on?
- Could they do their present work if they were pregnant?
- What tasks did they like the most? The least?
- Did certain tasks tend to be assigned to women or to men?

3) Social and psychological working conditions:
- Was their immediate superior a woman or a man?
- What was the proportion of men among their colleagues? Among their clients?
- How were relations with their immediate superior? With their colleagues?
- How were they received by their co-workers when they began working at their present job?
- How do the same co-workers react to their errors, their successes and the expression of their professional opinions?
- Had they experienced sexual or sexist harassment?
- How did their possibilities for advancement and for training compare with those of their male colleagues?

4) Job satisfaction:
- How satisfied were they with aspects of their job like remuneration, working conditions, tasks, and so on?
- Were they glad to be in a non-traditional job?
- Did they intend to remain in the same job?

5) Job access and job security:
- What helped them find their present job?
- Was being a woman a help? A hindrance?
- What quality contributed most to success?
- Was their partner supportive?
- In addition to having non-traditional occupations, were they non-traditional in their sports or recreational interests?

Chapter 3 offers a retrospective view of the respondents' experience of training. It focusses primarily on two aspects:

1) Conditions influencing access to training:
- What led the respondents to choose their present field?
- Who drew their attention to the training program?
- Did they know anyone who could serve as a role model?
- Did anyone try to encourage their choice, or discourage it? If so, who?

2) Educational conditions:
- Were they surrounded by male professors and students?
- Was there a division of labour on the basis of gender?
- To what extent did they have to cope with conditions associated by preconception with training in non-traditional fields, such as too few female classmates, harassment by men or inadequate familiarity with the tools of the trade?
- Which of these was most problematic?
- How would they describe their relations with their teachers? With the other students?
- What contributed most to their educational success?

Chapter 4 summarizes the survey's principal findings and offers proposals, based on the respondents' suggestions, for improving girls' access to non-traditional occupations.

CHAPTER 1

SOCIAL AND DEMOGRAPHIC PROFILE OF THE RESPONDENTS

Before dealing with the occupational situation of the women who answered the questionnaire, it is useful to consider their social and demographic circumstances.

1.1 Age

The respondents were relatively young. On average, secondary school graduates in the survey were just over 23, college graduates were 25, and university graduates were close to 29 (see Table 1).

The average age of the respondents tended to rise with their level of instruction, which is to be expected, since, in general, the longer people stay in school, the older they are when they graduate. What is more surprising are the high upper limits of the age of the respondents at each level of instruction: 35 for secondary school graduates, 40 for college graduates, and 53 for university graduates. This suggests that for some women, training leading to a non-traditional job represents either a second career or a second training phase. Some recent studies (T.N.T., 1987) suggest that women such as the older ones in this survey turn to non-traditional work out of dissatisfaction with conditions in traditionally-female jobs.

1.2 Marital Status

The respondents' marital status was of interest first of all because it could suggest that they held different values from women in traditional jobs, and secondly because marital status, and more generally family situation, could reflect role conflict, which women in non-traditional fields might experience with greater intensity than others.

Table 2 shows that 61.0% of the secondary school graduates, 44.0% of the college graduates, and 41.1% of the university graduates were single. The rest were living with someone, were married, or had been married.

Statistics on the Québec population at large (B.S.Q., 1988) indicate that in 1986, 60.9% of women between 20 and 24 years of age, and 27.5% between 25 and 29 were single. The marital status of the secondary school graduates in the survey thus corresponds to Québec norms for women in their age group. The college graduates, whose average age was 25, straddle the 20-24 and the 25-29 age groups; their level of 44.0% married also follows the pattern for 20-29 year olds in Québec. However, the university graduates among the respondents showed a greater tendency to remain single than their age cohorts in the female population at large. Was this characteristic related to their choice of non-traditional work, or simply to their longer schooling? In the absence of data permitting a real comparative analysis, it seems wise not to speculate. In general, the evidence suggests that women who hold non-traditional jobs are neither more nor less likely to be married than Québec women in general.

TABLE 1 - Age of Respondents

Age (Years)	Secondary (n=123)	College (n=369)	University (n=359)
Distribution	20 - 35	22 - 40	24 - 53
Average Age	23.1	25	28.9
Median Age	23	25	28

TABLE 2 - Marital Status

Marital Status	Secondary (n=123) %	College (n=369) %	University (n=358) %
Single	61.0	44.0	41.1
Married	18.7	35.4	43.3
Living with someone	17.1	19.7	13.7
Divorced or separated	3.3	1.0	1.1
Widowed	0.0	0.0	0.8

1.3 Children

As Table 3 illustrates, a large majority of the respondents (92.7% of secondary school graduates, 83.1% of college graduates, and 77.2% of university graduates) were not responsible for any children, and those with children typically had only one.

TABLE 3 - Children

Children	Secondary (n=123) %	College (n=369) %	University (n=359) %
0	92.7	83.1	77.2
1	4.1	12.1	15.6
2	3.3	4.0	5.6
3	0.0	0.8	1.7

As with the respondents' marital status, their situation with respect to children should be interpreted in the light of general demographic trends; women are having fewer and fewer children, and they are having them later in their reproductive years. In 1986, (B.S.Q., 1988) the rate of fertility in Québec was 1.4 children per woman, and the average age of women giving birth for the first time was 25.8. This information helps explain the differences in the number of children among respondents at different levels of instruction; it may be because the university graduates were older, and not because they had more schooling, that they had more children than the secondary school graduates.

1.4 Parents' Ethno-linguistic Background

In the literature on women in non-traditional activities, two phenomena associated with ethnicity stood out in particular. Ellis (1983) showed that more than a third of Canadian women engineers had trained abroad, 86% of them in eastern Europe. Also, a ministère de l'Éducation study revealed that the gap between male and female enrollment in secondary school science courses was greater among anglophones, including allophones attending English schools, than among francophones. The respondents were therefore asked about their parents' ethnic background. The results appear in Table 4.

TABLE 4 - Parents' Ethno-linguistic Background

Parents' Ethno-linguistic Background	Secondary (n=123) %	College (n=369) %	University (n=359) %
· Mother and father French Canadian	94.3	96.5	80.8
· Mother and father English Canadian	0.0	0.7	3.1
· Mother and father Canadian	1.6	0.0	2.8
· Other	4.0	2.7	13.4

Almost all the secondary and college graduates came from families in which both parents were French Canadian. There were very few families in which one or more parents were English Canadian or of other origin. Among university graduates, however, there was a somewhat different situation. A majority (80.8%) of respondents had French Canadian parents, but 5.9% had at least one English Canadian parent, and in 13.4% of cases, both parents came from a country other than Canada.

The English school system, which includes both anglophones and most allophones, has so far favoured general over vocational education. In both secondary school and the colleges, the proportion of students in vocational education is lower among anglophones than among francophones. Along these lines, the greater presence of women from backgrounds other than French Canadian at the university level appears unrelated to the fact that they are in non-traditional fields, and explainable rather in terms of the anglophone system's emphasis on general education, which leads to university.

At the secondary and college levels, the underrepresentation of English Canadians and of students of other origins among the respondents can also be attributed to the fact that vocational education is less developed in the English network; girls in vocational education in English schools have a narrower choice of training programs, which would limit their access to non-traditional employment.

1.5 Family Composition

Some sources have found that there is a link between birth order and choice of occupation. According to these authors, women who enter non-traditional fields are often either only children, first-born children, or first-born girls. It therefore seemed worthwhile to question the respondents on the composition of the family they grew up in. Table 5 presents the results.

TABLE 5 - Composition of Respondents' Families

Family Composition	**Secondary (n=123)**	**College (n=369)**	**University (n=359)**
· Average number of boys	1.8	1.6	1.4
· Average number of girls (including respondent)	2.9	2.8	2.4
· Average number of children	4.7	4.5	3.8
· Range (number of children)	1 - 18	1 - 14	1 - 13
Proportion of Respondents	**%**	**%**	**%**
· In families with 10 children or more	4.0	2.8	1.7
· In families with no boys	21.1	17.5	29.2
· Only daughters	3.3	1.1	7.0
· First-born	25.2	25.3	38.7

Table 5 shows that families of secondary school graduates had an average of 4.7 children, those of college graduates, 4.5, and those of university graduates, 3.8. It may be observed that **the higher the level of instruction, the smaller were the girls' families**, and that university graduates came from significantly smaller families than women from the two other levels. This situation is not specific to the respondents. In the Québec population as a whole, socio-economic status, level of education, and the demographic situation of families are closely related; in general, poorer families have more children, who receive less education.

It should also be noted that a relatively low proportion of the respondents were only daughters and that the proportion who were first-born was also much lower than that observed in other research. It has been hypothesized that being raised with more brothers than sisters may influence girls' career orientation. The respondents' answers did not support this hypothesis. They had roughly the same number of brothers and sisters: 1.8 brothers versus 1.9 sisters for secondary school graduates, 1.6 brothers versus 1.8 sisters for college graduates, and 1.4 brothers versus 1.4 sisters for university graduates.

Overall, then, apart from the link between level of instruction and size of family, no significant relation was established between family composition and the respondents' career choices. It is possible that studies that found a correlation between being a first-born or an only child and choosing a non-traditional career were influenced by other variables, such as the socio-economic status of their respondents; doctors and (university-level) scientists would tend to come from well-off families with fewer children, and hence would be more likely than most of the respondents in this study to be first-born or only children.

1.6 Socio-economic Level of Parents', Partners' and Respondents' Occupations

Some authors contend that a high educational and socio-economic level on the part of parents, especially fathers, favours non-traditional career choices on the part of daughters. This seemed a key hypothesis to test, because the survey's sample included graduates from three levels of instruction, who were likely to show broad diversity in their social backgrounds as well. It was decided to include the respondents' partners among the potential sources of family influence.

Considering the fathers first, what is striking about the information presented in Table 6 is how many of the respondents' fathers were blue- or white-collar workers. If technicians are included, the majority of the secondary school and college graduates and more than a third of the university graduates came from low or middle-income families.

Closer examination of the data shows that the differences in levels of instruction correspond to important differences in background. Most of the fathers of the secondary school graduates were blue- or white-collar workers; this was still true of the college graduates, but fathers with higher socio-economic levels comprised a larger proportion of the group. University graduates had the largest proportion of fathers who were professionals or executives. **The survey results demonstrate a close relationship between the daughters' level of education and the fathers' socio-economic level.** This suggests that although these women workers have succeeded in overcoming gender-related occupational stereotypes, their educational level continued to be strongly influenced by their social origin. These results replicate those of studies undertaken in connection with Project A.S.O.P.E. (Aspirations scolaires et orientations professionnelles des étudiants, or Students' Academic Goals and Career Orientations), which brought to light the continuing influence of social background on the academic career of young Quebecers of both sexes.

Other research has looked at the occupational profile of the mothers of women in non-traditional jobs. Some of these studies found that the daughters of income-earning women workers were more likely to choose non-traditional careers than those of full-time homemakers. According to other studies, it was only the daughters of women who were unhappy as housewives who tended to make non-traditional career choices; daughters of contented homemakers remained traditional in their own choices. By contrast, daughters of women who were happy as paid workers were more likely to enter non-traditional fields than daughters whose mothers were unhappy as paid workers.

TABLE 6 - Socio-economic Level of Parents', Partners' and Respondents' Occupations

	Secondary	College	University
Father's Occupational Level	(n=121) %	(n=356) %	(n=332) %
Blue- or white-collar worker	57.0	41.3	19.9
Technician	15.7	20.5	13.9
Professional or executive	7.5	14.6	47.3
Entrepreneur	19.8	23.6	18.7
Homemaker	0.0	0.0	0.3
Mother's Occupational Level	(n=122) %	(n=355) %	(n=334) %
Blue- or white-collar worker	19.7	24.8	16.2
Technician	3.3	3.0	10.2
Professional or executive	5.7	8.1	12.9
Entrepreneur	1.6	4.1	2.4
Homemaker	69.7	60.0	58.4
Partner's Occupational Level	(n=86) %	(n=298) %	(n=263) %
Blue- or white-collar worker	54.7	24.8	4.2
Technician	29.1	50.0	15.2
Professional or executive	8.1	17.8	74.5
Entrepreneur	5.8	4.7	2.3
Homemaker	0.0	0.0	0.0
Student	2.3	2.7	3.8
Respondent's Occupational Level	(n=122) %	(n=369) %	(n=356) %
Blue- or white-collar worker	63.9	3.4	0.0
Technician	31.1	91.3	1.4
Professional or executive	0.0	3.8	98.6
Entrepreneur	4.9	1.5	0.0

Respondents were asked to indicate their mother's occupation. The answers, presented in Table 6, illustrate that most respondents came from households in which the mother worked in the home. In 1986, the rate of participation in the Québec labour force of women in the 45-64 age group, to which most of the respondents' mothers would belong, was 38.3%. The college and university graduates in the survey thus had mothers who were roughly as present in the labour force as women their age in the population at large, whereas the mothers of secondary school graduates were considerably less likely to be employed outside the home than women their age in general, which corresponds to the general tendency for women with little schooling.

On the basis of the available data, it is impossible to judge whether or how the mothers' income-earning activity, or their job satisfaction, influenced their daughters' choice of a non-traditional occupation. However it is clear that having a mother who is a homemaker does not prevent girls from embracing non-traditional careers.

It is interesting to note, with respect to mothers who earned an income, that there was no close correlation between the mother's occupational level and the daughter's educational level, such as there was between fathers' occupational level and daughters' schooling. However, if the mothers' work situation is examined in greater detail, some differences along the lines of the respondents' levels of instruction do emerge. University graduates had the lowest proportion of mothers who were homemakers or unskilled workers, and the highest proportion of mothers in the ranks of technicians, professionals and executives. At the opposite end of the spectrum, the mothers of secondary school graduates were most likely to work in the home; mothers of college graduates, although less likely to be housewives, were more likely than those of secondary school graduates to be blue- or white-collar workers. In general it seems probable that having a mother whose occupational level is high would influence a daughter to continue her studies to an advanced level, but there is no indication that it would exercise a specific influence in favour of a non-traditional career.

Concerning the occupational level of the respondents' partners, it is noteworthy that whereas the literature often refers to partners in terms of their capacity to encourage or discourage non-traditional career choices, it rarely discusses what types of jobs the partners themselves hold.

According to Table 6, the partners of half of the secondary school and college graduates and three-quarters of the university graduates held jobs requiring the same level of instruction the respondents themselves had. A third of the secondary school graduates chose their partner from a social category superior to their own. College graduates, on the contrary, formed more relationships with men below them on the socio-economic scale than with those above them. Among university graduates, who showed the strongest tendency to socio-economic equality, only a minority shared their life with a socio-economic inferior.

As for the respondents' own socio-economic status, Table 6 shows that the majority of the secondary school graduates were blue or white collared workers (63.9%), although roughly a third were technicians (31.1%) or business people (4.9%). Almost all the university graduates (98.6%) were professionnels or executives; a few (1.4%) were technicians. **Clearly, the level of education had a decisive influence on the socio-economic status of the occupations that respondents exercized.** As one would expect, a S.S.D. led primarily to unskilled blue- or white-collar work, a D.E.C., to technical employment, and a university degree, to professional or executive-level work. It is interesting to note, though, that a sizable minority (31.1%) of secondary school graduates had risen in the ranks to positions that would normally require college training.

Overall, then, and at the risk of losing sight of certain nuances, it can be said that secondary school graduates were likely to hold blue- or white-collar jobs, as were their partners and fathers, while their mothers were likely to be homemakers. College graduates were most likely to be technicians, as were their partners, while their fathers were generally blue-or white-collar workers, and their mothers homemakers. University graduates, like their partners and fathers, could expect to attain professional or executive status; their mothers, too, are typically homemakers.

1.7 Parents', Partners' and Respondents' Employment Sector

The absence of role models is a factor often cited to explain the extreme rarity of women in non-traditional occupations. Consequently, the research team sought information concerning the kind of jobs held by those close to the respondents -- not only information on the level of their employment, which tells something about the form that social reproduction takes in this group, but also information about the actual sectors in which respondents and those close to them were employed. Although the occupational activities of a respondent's family do not exactly represent a model, they can provide information or stimulate interests that she might not otherwise have had, and may eventually lead her to train and work in a field related, if not identical, to that of her family. The results of this line of inquiry appear in Table 7.

Among the fathers of secondary school and college graduates, the highest proportion -- roughly half -- worked in pure and applied science; the administrative sector, second most important employer of this group, was far behind. The administrative sector was the major employer of fathers of the university graduates, but pure and applied science employed almost as many.

With respect to the mothers' employment sectors, it must be borne in mind that the figures apply only to the minority who worked outside the home. For all three levels of instruction, the administrative sector came first, employing more than half the working mothers. Next in order of importance were the arts and social sciences. This pattern is similar to that of the female labour force in Québec in general.

The respondents' husbands and companions worked in roughly the same sectors as their fathers. Pure and applied science was the principal employer of secondary and college graduates' partners, with more than fifty percent working in this sector, and administration was once again the second most important employer, but far behind the sciences. University graduates' partners were employed principally in administration, but almost as many worked in pure and applied science.

Among the respondents themselves, secondary and college graduates worked primarily in pure and applied science, with administration, and, in the case of college graduates, agriculture and forestry, in second place. Roughly half of the university graduates worked in administration, their principal employer, and a fifth in the arts and social science. Predictably, given that the respondents were selected on the basis of their non-traditional employment, they were concentrated in different job sectors than the female labour force in Québec as a whole.

In conclusion, the similarity between the respondents' job distribution pattern, by sector, and that of their fathers and partners is striking. For each level of instruction, the respondents' foremost employer was also the principal employer of their fathers and partners. Like father, like daughter?

TABLE 7 - Parents', Partners' and Respondents' Employment Sector

	Secondary	**College**	**University**
Father's Employment Sector	**(n=118)** **%**	**(n=353)** **%**	**(n=318)** **%**
Health	0.8	1.7	9.4
Agriculture and forestry	16.9	16.7	6.6
Pure and applied science	56.8	49.3	34.9
Social science and arts	6.8	7.1	9.7
Administration	18.6	25.2	39.3
Mother's Employment Sector	**(n=34)** **%**	**(n=136)** **%**	**(n=134)** **%**
Health	5.9	6.6	12.7
Agriculture and forestry	5.9	4.4	1.5
Pure and applied science	11.8	3.7	4.5
Social science and arts	23.5	34.6	29.9
Administration	52.9	50.7	51.5
Partner's Employment Sector	**(n=82)** **%**	**(n=286)** **%**	**(n=258)** **%**
Health	1.2	2.8	11.2
Agriculture and forestry	9.8	8.4	1.9
Pure and applied science	52.4	60.1	30.2
Social science and arts	8.5	11.9	22.1
Administration	28.0	16.8	34.5
Respondent's Employment Sector	**(n=122)** **%**	**(n=369)** **%**	**(n=356)** **%**
Health	0.0	0.5	10.7
Agriculture and forestry	16.4	12.2	2.8
Pure and applied science	40.2	64.2	18.0
Social science and arts	20.5	10.8	19.7
Administration	23.0	12.2	48.9

CHAPTER 2

THE RESPONDENTS' EXPERIENCE OF NON-TRADITIONAL EMPLOYMENT

This chapter focusses on the respondents' experience as workers; their occupational situations, the material, social and psychological settings in which they worked, their job satisfaction, hiring conditions and the presence or absence of conditions conducive to their remaining at their jobs.

2.1 Occupational Situation

2.1.1 Length of Employment

The questionnaire used to screen potential respondents retained graduates who were holding a non-traditional job or had held one during the previous twelve months. Respondents were asked to describe their experience in that job.

TABLE 8 - Respondents' Status with Respect to Non-traditional Employment

Non-traditional Employment	Secondary		College		University	
	N	%	N	%	N	%
Held non-traditional jobs at time of interview	104	83.7	308	83.4	334	93.0
Had held non-traditional jobs during previous 12 months	19	16.3	61	16.6	25	7.0
Total	123		369		359	

As Table 8 shows, the overwhelming majority of those selected were actually working at non-traditional jobs at the time of the survey. The remainder had held such employment during the previous twelve months.

Table 9 shows that on average, the respondents had occupied their positions for more than two years. It can therefore be presumed that they were well acquainted with the work situation they described. In addition, the sample for each educational level included sufficient proportions of respondents at various seniority levels in non-traditional work to offer a well-balanced portrait of these workers' situation.

2.1.2 Types of Occupation

The workers in the sample all had jobs in which a third or less of the personnel was female.[3] The particular non-traditional jobs they held varied greatly: 31 different occupations were represented in the secondary school group, 48 in the college group, and 42 among the university graduates. For purposes of data analysis, these occupations have been classified into major categories. Appendix 1 lists all the occupations represented in each category.

---

[3] "Job" is used here to refer to to the occupational groups of the Canadian Classification and Dictionary of Occupations (C.C.D.O.).

TABLE 9 - Length of Time at Present or Most Recent Non-traditional Job

Length of Employment	Secondary (n=122) %	College (n=369) %	University (n=357) %
0 - 12 months	40.2	34.1	29.7
13 - 24 months	14.7	17.8	23.5
25 - 36 months	19.7	20.3	20.7
37 - 48 months	8.2	10.4	12.4
49 - 60 months	9.0	8.7	7.0
more than 60 months	8.2	8.7	6.7
Average duration	27.4 months	28.8 months	28.8 months
Median duration	24 months	24 months	24 months

Table 10 shows the distribution of the respondents by occupational category. Among secondary school graduates, those in printing and fabricating occupations[4] make up more than one-third of the sample. The categories of drafting and butchering follow, with about a fifth of the cases each. At the college level, architectural and engineering technicians represent slightly over half the sample. The other categories, such as physical science technicians, biological and agricultural technicians, police officers, and sales personnel each represent about 10% of the sample.

Among university graduates, accountants were the largest group, with about one-quarter of the sample; they were followed by lawyers and notaries (17.0%), administrators (16.7%), architects and engineers (11.7%), doctors and dentists (10%), and mathematicians and economists (8.4%).

Although all of the occupations surveyed were non-traditional, some were more so than others. The rate of female participation in occupations exercised by the respondents ranged from 12.9% for college graduates to 21.3% for university graduates (see Table 11).

---

[4] Titles of occupational categories will be abbreviated hereafter.

TABLE 10 - Types of Occupation

Secondary			College			University		
	N	%		N	%		N	%
Printing, fabricating, assembling, repairing	42	34.1	Architectural and engineering technology	193	52.3	Accounting	93	25.9
Technical drafting	27	22.0	Technical or specialized work in physical science	38	10.3	Law	61	17.0
Butchering	23	18.7	Biological or agricultural technology including forestry	38	10.3	Administration	60	16.7
Other, not elsewhere classified	31	25.2	Police technology	37	10.0	Architecture, engineering	42	11.7
			Sales and services	30	8.1	Medecine, dentistry	36	10.0
			Other, not elsewhere classified	33	8.9	Mathematics, economics	30	8.4
						Other, not elsewhere classified	37	10.3
Total	123			369			359	

TABLE 11 - Average Rate of Female Participation in the Respondents' Occupations

Secondary (n=123) %	College (n=369) %	University (n=359) %
13.2	12.9	21.3

It will be observed that the rate of female participation was much higher in the occupations of the university graduates (21.3%) than in those of the college (12.9%) or secondary school (13.2%) graduates. These results suggest that the feminization of traditionally-male occupations is occurring more at higher than at lower educational levels.

2.1.3 Employer

According to some studies, women who choose non-traditional careers are more likely than their male counterparts to work in the public sector. This may reflect a choice in favour of the advantageous working conditions the public sector offers; however it should not be forgotten that women began to enter certain non-traditional occupations when the public sector was undergoing major expansion.

Table 12 shows that **the majority of the respondents at each level of instruction were employed in the private sector,**[5] and especially in small and medium-sized firms. However, the proportion of respondents in the private sector was higher among the secondary school graduates, where it reached 85.2%, than among the college (59.9%) or university graduates (65.9%).

Respondents were also asked the principal activity of the firm for which they worked. The concentration of women workers in a few occupations in the tertiary sector has been much criticized, and observers have expressed the hope that access to non-traditional jobs would bring about greater occupational diversification. According to Statistics Canada, in 1986, 2.3% of women workers were employed in the primary sector, 15.8% in the secondary and 80.4% in the tertiary.[6]

TABLE 12 - Present Employer; Type and Size of Firm or Organization

Type of Firm or Activity	**Secondary (n=122) %**	**College (n=366) %**	**University (n=352) %**
Federal government	3.3	4.4	4.8
Provincial government	4.9	14.7	12.8
Municipality	4.1	11.3	2.6
Public services	0.8	5.0	3.1
Parapublic bodies	1.7	4.7	10.8
Private enterprise	85.2	59.9	65.9
Size of Private Firms	**(n=103) %**	**(n=209) %**	**(n=224) %**
Small and medium-sized firms	88.3	67.2	63.8
Large firms	11.7	32.8	36.2

---

[5] The presence of women in the private sector is underevaluated, because those employed by private firms providing public services such as telephone, gas and electricity are included in another category.

[6] 1.6% of the female labour force was not classified, either because the women concerned had not yet held employment, or because they had not done so in the past five years.

The distribution of the respondents by major economic sector does not differ radically from that of the female population of Québec in general. Nonetheless, certain differences are of interest, such as the greater tendency of the secondary and college graduates to work in the primary and secondary sector; more than a third did so, compared with 18.1% for the Quebec female working population as a whole. Along similar lines, secondary and college graduates in the survey were underrepresented in the tertiary sector relative to the Québec female labour force. Among university graduates, however, the proportion of the respondents in the tertiary sector was higher than the average for Québec working women. This phenomenon can probably be attributed to the importance of the liberal professions as an occupation for university graduates.

TABLE 13 - Economic Sectors of Firms

Economic Sector	Secondary (n=121) %	College (n=369) %	University (n=354) %
Primary	8.3	8.5	2.0
Secondary	28.1	25.0	11.3
Tertiary	63.6	66.5	86.7

TABLE 14 - Respondents' Employment Status

Employment Status	Secondary (n=122) %	College (n=369) %	University (n=357) %
Permanent	75.4	68.0	82.9
Temporary	14.8	12.6	5.0
Contract	4.9	14.1	9.8
Other	4.9	5.3	2.2

2.1.4 Job Security

Table 14 demonstrates that the great majority of the respondents had permanent jobs: 75.4% of the secondary school graduates, 68.0% of the college graduates, and 82.9% of the university graduates. It also shows that a sizable minority of the respondents lacked this advantage: almost one fifth of the university graduates, one-quarter of the secondary school graduates, and a third of the college graduates had only temporary positions, or worked on contract. Still, given the relative youth of the respondents and the tightness of the job market, the situation of these non-traditional workers seems relatively positive.

It should be noted, however, that employment status varied by type of occupation.[7] Biological and agricultural technicians were two to three times less likely to have permanent jobs than other college graduates, for example; only 34.2% were employed on a permanent basis, compared with 65.3% to 83.8% of respondents at this educational level, in other occupational categories. Among university graduates, 7 out of 10 mathematicians, economists, architects and engineers, 8 out of 10 lawyers and notaries, doctors and dentists, and 9 out of 10 administrators and accountants had permanent positions.

2.1.5 Union Membership

In 1986, 31.2% of Québec women workers belonged to a union. However, the rate of unionization in the private sector (23.7%) was very low compared with that in the public sector (70.8%). According to Statistics Canada, unionization is also higher among men than among women: 34.7% in the private sector in 1986. How do women doing "men's jobs" fare in this regard? The respondents' answers are presented in Table 15.

TABLE 15 - Union Membership

Union Member	Secondary (n=121) %	College (n=368) %	University (n=357) %
Yes	30.6	39.4	17.4
No	69.4	60.6	82.6

Table 15 shows that 30.6% of the secondary school graduates, 39.4% of the college graduates and 17.4% of the university graduates were unionized. Given the very high proportion of secondary and college graduates who work in the private sector, their rate of unionization seems quite high; it is similar to that for men working in the private sector.

As for the university graduates, whose rate of unionization was only about half that of the other two groups of respondents, it should be borne in mind that a large proportion of workers at this educational level are self-employed or work in family businesses, or are executives.

Rates of unionization also varied considerably from one occupation to another. Among the secondary school graduates, butchers, at 54.2%, had a rate twice that of the other occupations. The college graduates displayed major differences in their rate of union membership, which ranged from 13.3% in sales to 86.5% in police work; aside from these extremes, unionization rates were between 31.8% and 44.7% among the college graduates. Among the university graduates, the lawyers and notaries and the accountants had low unionization rates (9.8% and 10.8% respectively), while administrators (15.3%) and architects and engineers (23.8%) had slightly higher rates and doctors and dentists (30.6%) and mathematicians and economists (36.7%) had rates of union membership twice as high as the average for the university graduates.

---

[7] For purposes of describing the relationship between type of occupation and other variables, the occupational category "other" has been eliminated. When one of the three levels of instruction is not cited, it means that no statistically significant relationship was observed for that level. This occurred more frequently in connection with the secondary school graduates, due to the small number of respondents.

2.1.6 Income

In 1986, the median income of income-earning women in Quebec was $11 586.[8] Among the survey's respondents, the median salary fell in the $10 000 to $14 999 bracket for the secondary school graduates, $15 000 to 19 999 for the college graduates, and $30 000 to $34 999 for the university graduates.

At the time of the survey, the secondary school graduates earned as much as, or more than, women workers in Québec in general, and the college and university graduates in the survey earned appreciably more. 40% of the secondary school graduates, 75.9% of the college graduates, and 95.4% of the university graduates had annual incomes of $15 000 or more, compared with only 39.2% of the female working population of Québec.

This may seem surprising, given that the respondents were generally young, with limited experience in the labour market, and that experience has a strong influence on earning level. The fact that all the respondents had at least a secondary school diploma gave them an advantage over Québec working women in general, since it was women with eight years of schooling or less who had the lowest earnings, and the largest gap between male and female wage levels occurred in this group, too.

The data confirm that educational level strongly influences rate of remuneration. Table 16 illustrates the differences in salary level according to level of instruction. There was a gap of $20 000 between the lower level of the median salary bracket for secondary school graduates, and the corresponding level for university graduates.

However, schooling alone cannot explain the respondents' high incomes. At equivalent educational levels, the respondents still earned more than the average for Québec women in 1986. The greatest difference occurred in the case of university graduates.

It may be, then, that the respondents' earnings more closely resemble those of male workers than of female ones. This would support the findings of other studies, to the effect that women in traditionally-male fields tend to earn more than other women (David, 1986; T.N.T., 1987), although the fact that a higher proportion of the respondents worked full-time than of the female labour force in Québec in general should also be taken into account. Finally, it is important to point out that a non-traditional job does not automatically spell high wages; even though more than 90% of the secondary school graduates worked full-time, roughly a quarter of them earned less than $10 000 a year, a salary at or below the poverty line.

---

[8] Income here refers to wages, salary, and net earnings from independent economic activity.

Within each level of instruction, there was considerable variation in income. Among secondary school graduates, butchers earned the least; 87.0% of them made under $15 000, compared to about half the women in other occupations. Of the college graduate group, police officers had the most advantageous situation, with almost two-thirds earning $25 000 and over, whereas in other occupations no more than one-quarter of the workers earned as much. At the university level, almost all the doctors and dentists (84.8%) had annual incomes of $30 000 or over, as did about two-thirds of the mathematicians and economists, architects and engineers, and slightly over half of the administrators. Lawyers and notaries earned less, and accountants brought up the end of the list; slightly over a third of those employed in the latter groups earned over $30 000.

TABLE 16 - Annual Income in 1986, by $5000 Increment

1986 Income	Secondary (n=120) %	College (n=361) %	University (n=349) %
$ 0 - 4 999	7.5	1.6	0.3
5 000 - 9 999	16.7	5.8	0.6
10 000 - 14 999	35.8	16.7	3.7
15 000 - 19 999	29.2	27.0	5.7
20 000 - 24 999	8.3	27.9	15.8
25 000 - 29 999	2.5	10.9	23.2
30 000 - 34 999	0.0	6.2	22.9
35 000 - 39 999	0.0	2.9	12.6
40 000 - 44 999	0.0	0.5	6.3
45 000 and over	0.0	0.5	8.9
Median	$10 000-14 999	$15 000-19 999	$30 000-34 999

2.1.7 Hours Worked and Work Schedule

The standard work week is currently 44 hours, although Québec civil servants work 35 hours. According to Statistics Canada, in 1986 Canadian women worked an average of 32.8 hours a week, or 38.8 if only full-time workers are counted. During the same year approximately one-quarter of women workers in Québec (23.7%) were employed on a part-time basis. Respondents were asked how many hours per week they worked; the purpose was both to gauge how much part-time work they did and to test the popular image of women in non-traditional occupations as superwomen who work night and day.

The answers are presented in Table 17. At each of the three levels of instruction, the proportion of respondents employed part-time was lower than the average for women workers in Québec. The great majority of the respondents worked between 30 and 44 hours. Only a minority worked more than 44 hours: 7.3% of the college graduates and 13% of the secondary school graduates reported working over 44 hours a week; however, among university graduates, long hours were more common (27.5%).

For the university graduates, there was a correlation between the length of the work week and the rate of female participation in an occupation. The more predominantly male the occupation, the higher the proportion of women working more than 35 hours. Roughly three-quarters of the women holding jobs in which women made up less than 20% of the personnel worked more than 35 hours a week, whereas only about half of those in occupations with over 20% women workers did so. A possible explanation might be that jobs in which there are few women were designed for men, who could easily work long hours because their partners took care of their family obligations.

TABLE 17 - Hours Worked per Week

Hours	Secondary (n=123) %	College (n=366) %	University (n=356) %
- under 30 hours	9.8	2.2	5.9
- 30 - 44 hours	77.2	90.5	66.6
- over 44 hours	13.0	7.3	27.5
Average work week (hours)	38.2	37.9	39.6
Median length of work week	39	38	40

Still among university graduates, number of hours worked was related to type of occupation. Lawyers and notaries, architects and engineers put in the longest weeks: three-quarters worked more than 35 hours. About two-thirds of executives and administrators, doctors and dentists, but less than half the accountants, mathematicians and economists did likewise. With the exception of accountants, women workers in the private sector were those most likely to work over 35 hours a week.

TABLE 18 - Work Schedule

Shift	Secondary (n=122) %	College (n=362) %	University (n=342) %
Day	72.1	80.6	81.9
Evening	1.6	0.1	0.6
Night	0.0	0.5	0.0
Rotating	18.9	15.3	11.7
Other	7.4	3.4	5.8

Non-traditional work is often associated in the public mind with shift work, and rotating shifts in particular. Table 18 illustrates the situation of the survey's respondents as regards work schedules. Most of the women were working days; almost none worked evenings or nights. Rotating shifts affected a significant minority.

At the secondary school level, day work was far less prevalent among butchers (58.3%) than in the other occupations held by respondents. Among college graduates, police officers, with only 5.6% on day shift, showed an entirely different pattern than other workers, 72.7% to 92.1% of whom worked days. At the university level, less than a third of the doctors and dentists had daytime working hours, compared with nearly two-thirds of the lawyers and notaries and almost all of the other workers.

2.2 Physical Working Conditions

2.2.1 Incidence of Certain Job Characteristics

One of the recognized obstacles to girls' access to non-traditional occupations is the popular image of them. Stereotypical ideas about non-traditional work are based largely on exaggeration and generalizations concerning tasks occasionally associated with manual labour, heavy industry and blue-collar work. In any case, research has shown that the real demands of blue-collar work are often not nearly as heavy as those set by certain employers (Gauthier, 1984) or employment programs (Barrette, 1984). It would appear that discriminatory practices and popular misconceptions are jointly responsible for maintaining false ideas about the physical requirements of non-traditional jobs.

For example, it is commonly assumed that non-traditional jobs entail unhealthy working conditions (dirt, dust, noise, extreme variations in temperature, stress), dirty tasks or those requiring inordinate strength, and work with heavy machinery or vehicles. With respect to occupations that are too high in the economic hierarchy to be readily associated with dirty hands, there are discouraging references to frequent travel, stress and excessive workloads in management, or isolation and a lack of contact with the "real world" in scientific work. The resulting portrait of women in non-traditional jobs is scary enough to deter many adolescent girls.

How closely did the experience of the respondents conform to the stereotypical image? To allow a more balanced, more realistic picture of non-traditional work to emerge, the survey included questions on the frequency of characteristics commonly deemed negative. Table 19 displays the proportion of respondents at each educational level who experienced the conditions that make up the stereotype, and the frequency with which they did so.

First of all, for none of the eight characteristics mentioned at any of the three levels of instruction did a majority of the respondents say that they often encountered the supposedly typical condition. **The alleged problems**[9] of

---

[9] The term "problems" is used here to describe characteristics of non-traditional employment that certain preconceptions categorize as negative. The respondents did not necessarily experience requirements concerning physical strength, geographical mobility or isolation as problematic.

non-traditional work were by no means a frequent experience for the majority of the women interviewed. However, a substantial proportion encountered some of the stereotypical circumstances quite frequently. The following examples include only situations experienced often or sometimes by more than a third of the respondents. At the secondary school level, in decreasing order of incidence, there were: dirty work, excessive workloads, intense stress, exposure to health hazards and work requiring physical strength. College graduates experienced the following difficulties relatively frequently: excessive workloads, dirty work, intense stress, and exposure to health hazards. Among university graduates, the following situations stood out: excessive workloads, intense stress, and frequent travel.

The ultimate impression that Table 19 gives is that of the differences between the three levels of instruction. The monolithic image of non-traditional work is not borne out by the respondents' experience. In the first place, **the higher the educational level, the fewer the stereotypical difficulties** that were experienced often or sometimes by more than a third of the respondents. From five at the secondary school level, the number falls to four at college level, to three among university graduates. It would seem, then, that popular notions about non-traditional work, although still exaggerated, conform more closely to the situation of unskilled workers than to that of technicians, professionals or managerial staff. In addition, the educational levels differed as to which of the stereotypical difficulties occurred most frequently. Some difficulties figured importantly only at one level of instruction; work requiring physical strength at the secondary school level, for example, or the obligation to travel a lot for university graduates.

At each level of instruction, the frequency and nature of difficulties was related to the kind of occupation. Among secondary school graduates, butchers virtually never complained of isolation, and draftpersons hardly ever, but more than a third of the workers in printing and fabricating often or sometimes felt isolated. Dirty work and work requiring physical strength were less frequent for draftpersons, more frequent in the printing and fabricating sectors, and highest for butchers.

Among college graduates, those in sales and biological and agricultural technicians were twice as likely as other workers to have to travel outside their region. Tasks involving health hazards were performed most often by physical science technicians, followed by those in biology and agriculture and by police officers, and least often by architectural and engineering technicians, and by workers in sales. Although it was predictable that the sales work would entail fewer health hazards than police work, it is more surprising to learn that technicians in agriculture and biology, fields that evoke the great outdoors, and those in physical science, whom one imagines in white lab coats, incur greater risks than engineering and architectural technicians, who are associated in popular imagery with construction sites.

TABLE 19 - Incidence of Job Characteristics Associated with Stereotypes of Non-traditional Occupations

Characteristics	Secondary				
		%			
	N	Often	Sometimes	Rarely	Never
Travel outside own region	123	2.4	5.7	8.1	83.7
Work in isolation	123	15.4	9.8	9.8	65.0
Excessive workloads	122	27.0	32.8	17.2	23.0
Exposure to health hazards	123	22.8	19.5	17.9	39.8
Work requiring strength	123	18.7	17.9	22.8	40.7
Dirty work	123	45.5	23.6	10.6	20.3
Operation of heavy machinery	121	10.7	5.8	9.9	73.6
Intense stress	123	21.1	26.8	17.9	34.1

	College				
		%			
		Often	Sometimes	Rarely	Never
Travel outside own region	369	7.8	14.0	16.8	61.5
Work in isolation	369	9.8	13.3	23.1	53.8
Excessive workloads	369	22.9	40.0	17.5	19.6
Exposure to health hazards	368	25.8	22.9	17.1	34.3
Work requiring strength	369	9.2	20.4	26.4	43.9
Dirty work	369	27.4	26.4	14.8	31.4
Operation of heavy machinery	369	2.4	5.7	7.0	85.0
Intense stress	368	15.7	36.4	18.8	29.1

	University				
		%			
		Often	Sometimes	Rarely	Never
Travel outside own region	359	14.2	30.1	22.0	33.7
Work in isolation	359	13.4	8.1	29.2	49.3
Excessive workloads	358	47.5	34.9	8.9	8.7
Exposure to health hazards	358	3.9	8.4	19.6	68.2
Work requiring strength	359	0.6	3.9	15.6	79.9
Dirty work	359	3.1	10.9	13.4	72.7
Operation of heavy machinery	359	0.6	0.6	3.6	95.3
Intense stress	358	35.5	35.8	10.9	17.9

With respect to the need for physical strength, it seems much higher for technicians in biology and agriculture than for the other workers at this level. Unexpectedly, workers in sales required physical strength more frequently than engineering and architectural technicians. At the university level, doctors and dentists and accountants had less need to travel for professional reasons than other respondents did. About a third of the mathematicians and economists, lawyers and notaries suffered often or sometimes from isolation, which was rarer among other university graduates, and rarest of all among doctors and dentists, only one in ten of whom experienced it. Almost three-quarters of the university graduates often or sometimes experienced intense stress, but mathematicians and economists reported it less often (53.3%) than lawyers and notaries (90.2%).

Respondents who reported intense job-related stress were asked to describe in their own terms the principal cause of the stress. Six categories of stressors plus a category "other" were created to classify this information, which concerned approximately half the secondary and college graduates and three-quarters of the university graduates, who said they sometimes or often experienced intense stress.

TABLE 20 - Causes of Intense Stress at Work

Causes of Intense Stress	Secondary (n=79) %	College (n=260) %	University (n=292) %
• Time pressures	50.6	60.1	64.0
• Health hazards	5.1	13.3	1.4
• High standards	7.6	2.7	1.4
• Heavy responsibilities	7.6	6.4	19.9
• Unsatisfactory human relations	24.1	13.7	11.0
• Other	5.1	3.8	2.4

Table 20 shows that the principal cause of stress was time pressure. Respondents cited deadlines and having to rush pharmaceutical products to patients, to scramble for information or equipment in order not to keep workers on construction sites waiting, or to fill orders to be delivered "yesterday". Time pressure varied by occupation, but it always involved having less time than necessary to accomplish tasks. This factor tended to affect the most educated respondents more than the others; however, there is no evidence that it was specifically related to the exercise of non-traditional occupations.

Other sources of stress also figured among the respondents' answers, although none were cited nearly as often as time pressure. One-quarter of secondary school graduates considered unsatisfactory human relations the principal source of stress on the job. This stress factor placed second among college graduates as well, but in their case it was followed closely by health hazards. After time pressure, university graduates blamed their stress on heavy responsibilities and unsatisfactory human relations, in that order.

Unsatisfactory human relations is an umbrella term for a number of circumstances described by respondents. It includes solitude, excessive zeal or meddling by a supervisor, conflicts with clients, pressure, harassment or competition with colleagues. Risk was often evoked by police officers, who experienced anxiety when they had to go to the scene of a murder, suicide or accident. "Heavy responsibilities" refers to the possibility that errors could result in either financial loss or, as several doctors pointed out, loss of human life. Other stress factors, mentioned by fewer than 10% of respondents, may be considered minor.

2.2.2 Pregnancy

It has been observed that relatively few of the respondents had children, and that this corresponds to the general profile of Québec women in their age group. However, as young women, many would probably be interested in having children in the future. Consequently, it seemed relevant to find out whether it would be possible for the women to do their work while pregnant, given the working conditions in their non-traditional jobs. An effort was made to place the issue in a real-life context, by asking the women whether they could perform their present tasks if they were six months pregnant, and if not, what alternatives they envisaged.

According to Table 21, approximately one half of the secondary school and college graduates believed that they could not carry out their tasks if they were six months pregnant, but pregnancy apparently posed fewer problems for the university graduates, only one in ten of whom held this view.

TABLE 21 - Respondents' Opinions on Compatibility of Their Tasks with Pregnancy

Possibility of Carrying Out Her Tasks if Six Months Pregnant	Secondary (n=120) %	College (n=359) %	University (n=353) %
Yes	49.2	45.2	87.5
No	50.8	54.8	12.5
If Not, Alternative Option	(n=62)	(n=192)	(n=47)
Temporary transfer	32.3	46.2	55.3
Preventive leave	53.2	44.4	23.4
Quit job	11.3	5.1	8.5
Other	3.2	4.4	12.8

There is probably a relationship between the frequency with which certain difficulties are encountered in a job (Table 19) and answers to the effect that certain tasks could not be performed if the respondents were pregnant. It will be recalled that the secondary and college graduates had more often than university graduates to do tasks involving health hazards or requiring great physical strength, both of which could cause problems during pregnancy. Along similar lines, at the secondary level three-quarters of the butchers, the occupational group that reported using physical strength the most in their jobs, affirmed that their tasks were incompatible with advanced pregnancy, whereas only one-quarter of the draftspersons had the same opinion.

Among college graduates, the vast majority of police officers and physical science technicians, and a smaller majority of biological and agricultural technicians said that a pregnancy would prevent them from carrying out their usual tasks, while only a minority of architectural and engineering technicians and sales workers would experience the same constraints.

The problems of reconciling professional duties and pregnancy seem to have been posed more sharply for respondents in occupations involving a great deal of physical effort. But if their situation seems dramatic compared with that of office workers in the survey, it resembles that of women hospital workers in Québec, more than half of whom take a preventive leave.

Approximately half of the secondary school and college respondents who felt that they would not be able to perform their work during pregnancy would opt to take a leave from their jobs and receive compensation from the Commission de la santé et de la sécurité du travail (C.S.S.T.). A third of the secondary school graduates and half of the college graduates would consider a temporary transfer to another position in the same occupation. University graduates, of whom only one in ten considered pregnancy incompatible with their jobs, would think first in terms of a temporary transfer and then in terms of preventive leave. Fortunately, at all three levels of education, only a small minority of respondents considered quitting their jobs a solution to the problems posed by pregnancy.

2.2.3 Agreeable and Disagreeable Tasks

Now that the real-life incidence of the characteristics that make up the stereotypical non-traditional job profile has been established, it remains to determine which activities in their jobs the respondents enjoyed or disliked.

The literature offers little information on this subject. The advantages of non-traditional employment and women's motives for seeking it have usually been expressed in terms of money; some sources also stress the prestige and the social and economic validation such jobs provide. The pleasure involved in performing the jobs has been somewhat neglected. Similarly, apart from exaggerated references to physical strength, it remains unknown which aspects of jobs conceived by and for men are likely to elicit discomfort or displeasure in women.

A knowledge of which tasks women in non-traditional jobs like or dislike would help educators understand what influences women to enter or stay away from such occupations, and would thus make it possible to devise ways of making job descriptions conform more closely than at present to the expectations and interests of women workers, as well as those of men.

Respondents were simply asked to name the tasks they enjoyed most and least at work. The answers were then classified in four categories of agreeable tasks; (1) technical tasks, (2) human relations tasks, (3) creative and problem-solving tasks, (4) outdoor and external tasks, and four categories of disagreeable ones; (1) carrying out orders and doing routine tasks, (2) maintenance tasks, (3) dirty and dangerous tasks, (4) tasks involving difficult human relations. In addition, the general categories "all", "none", and "other" were created.

Agreeable technical tasks included using precision instruments, analyzing products, measuring output or calibrating equipment. The human relations duties that respondents liked were those that called on them to work in a team, help people or have contact with the public. Determining the level of priority for services, creating a program of activities, choosing materials, planning projects, being in charge of a dossier from start to finish, and devising new methods were classified as duties involving creativity and problem-solving skills. Outdoor and external tasks involved outdoor activities, publicity work or outside representation of the firm.

The following are examples of duties the respondents disliked. For a mining technician, carrying out orders and doing routine tasks included shuffling papers; for a butcher, grinding meat; for an architectural technician, correcting other people's plans; for an electronics technician, ordinary maintenance work; and for an architect, any sort of mindless, purely mechanical activity, such as photocopying blueprints. Maintenance work they found disagreeable included cleaning the work area or the laboratory or washing instruments, for a chemical technician, and washing counters, for a butcher. Dirty and dangerous work meant handling radioactive substances, for a chemist, and testing concrete in the rain, for an engineering technician. For a police officer, handing out tickets or patrolling with a sexist male colleague came under the heading of tasks involving difficult human relations, while for others, such duties might take the form of attending useless meetings, trying to help uncooperative patients, or carrying out inspections in an unhealthy environment, where the presence of the worker was perceived as a threat.

Interestingly, some respondents liked all their tasks. However, this sort of unconditional or total appreciation for their job grew less frequent as the educational level rose. **At all three levels, creative and problem-solving duties were cited as agreeable more often than any others.** Technical tasks came next in order of preference for secondary school graduates, followed closely by human relations, which held second place among the college and university graduates.

In summary, all of the respondents, secondary, university and college graduates alike, enjoyed tasks requiring creativity and problem-solving and those involving human relations. At the secondary level, where creative and problem-solving duties, though still in first place, were cited less frequently than at the other two levels, a preference for technical duties made up the difference.

At every level, about one-quarter of the respondents stated that they found none of their tasks disagreeable. It is tempting to infer that they were highly satisfied with their jobs; other results, bearing more directly on the question of job satisfaction, will make it possible to test this hypothesis later in the report.

All three educational levels designated as least agreeable tasks that involved carrying out orders and doing routine work. This is consistent with the answers in the section on agreeable tasks. Those who relished creative and problem-solving work, which requires initiative, were unlikely to enjoy obedience and routine. Other tasks deemed disagreeable varied by educational level. Among those that more than 10% of the respondents cited, there were, at the secondary level, maintenance tasks and dirty or dangerous work; among college graduates, duties involving difficult human relations plus dirty or dangerous work; and at the university level, difficult human relations.

It will be noted that activities involving carrying out orders and routine, those considered the most disagreeable at all three levels of education, were more widely disliked by respondents as their educational level rose. Presumably the more educated respondents resent being asked for mindless obedience all the more in that they expect to shoulder responsibilities and take initiatives. The more educated workers also had the greatest tendency to condemn tasks involving difficult human relations, perhaps because they had

TABLE 22 - Agreeable and Disagreeable Tasks

Agreeable Tasks	Secondary (n=121) %	College (n=363) %	University (n=347) %
• All tasks	16.5	10.2	5.5
• Technical tasks	24.0	9.4	5.8
• Tasks involving human relations	21.5	17.5	36.6
• Creative and problem-solving tasks	25.6	48.4	43.6
• Outdoors and external tasks	7.4	9.5	4.0
• Other	5.0	4.9	4.6
Disagreeable Tasks	**Secondary (n=123) %**	**College (n=369) %**	**University (n=359) %**
• None	26.0	23.8	23.4
• Tasks involving carrying out orders and routine work	22.8	31.4	42.3
• Maintenance work	13.8	6.8	0.8
• Dirty or dangerous work	11.4	11.3	1.1
• Tasks involving difficult human relations	7.3	14.0	21.4
• Other	18.7	12.7	10.9

greater hopes in this regard, or else because their occupations placed them more frequently in conflict-prone situations such as personnel management, teamwork, contact with clients or planning sessions.

In contrast, maintenance, dirty or dangerous work were barely mentioned by the university graduates, whereas a sizable minority of the secondary and college graduates cited these activities as disagreeable. Doubtless this is because at the latter two levels, the workers were more often required to perform dirty or dangerous work. There was thus a link between the perception of tasks as disagreeable or agreeable and the frequency with which tasks were carried out. Maintenance work and dirty or dangerous work were virtually absent from the frame of reference of university and college graduates, simply because they were not part of their daily reality.

These findings raise doubts about the widespread notion that women are not interested in work involving responsibility or in technical activities, preferring to carry out orders and to have contact with other people. The fact that nearly half the respondents at all levels preferred creative and problem-solving duties, as well as, among secondary graduates, technical work, and that respondents at all levels disliked routine tasks the most, strongly suggests that what **these women appreciated were tasks involving responsibility and initiative**. This preference may not be specific to women in non-traditional occupations. If it were to emerge that women in general share this attitude, the concentration of women in jobs requiring simple execution of orders, at the bottom of the occupational hierarchy, would have to be explained by reference to factors other than women's predilection for taking orders and their fear of responsibility.

Along similar lines, the survey's finding that a large proportion of the respondents, especially among the secondary and college graduates, **relate well to technical things and enjoy solving technical problems** challenges preconceptions about women being "naturally" good with people and bad with machines. Also, the idea that men's work involves mainly relating to objects, rather than people, may itself need rethinking; for if the college and university graduates ranked the human relations aspects second in both preferred and disliked tasks, then **human relations must be a relatively major factor in traditionally-male jobs**.

Analysis of the data also shows that whether the women preferred human relations tasks or technical ones[10] depended on the kind of work they did. At the secondary level, the butchers voted overwhelmingly in favour of human relations tasks, while most of the other respondents preferred technical work. Among college graduates, police officers favoured human relations; technicians in physical science, architecture and engineering preferred technical work; and those in biology and agriculture, like sales workers, derived equal satisfaction from both kinds of tasks. At the university level, a large majority of architects, engineers, administrators, mathematicians and economists said they preferred technical work, while doctors and dentists appreciated work with more emphasis on human relations. Accountants, lawyers and notaries liked both kinds of activity.

---

[10] For purposes of the present discussion, human relations tasks include those previously designated as tasks involving human relations and outdoor or external tasks. Similarly, technical tasks here refer to both creative and problem-solving tasks and technical tasks, strictly speaking.

2.2.4 Sexual Division of Tasks

In obtaining jobs in male-dominated sectors, the respondents had already crossed one of the boundaries created by the sexual division of labour. However, there are indications that male and female workers with identical job descriptions may, in fact, perform very different tasks.

TABLE 23 - Incidence of Sexual Division of Tasks and Nature of the Tasks

	Secondary		College		University	
Certain Tasks Are Assigned More Often	**To her (n=117) %**	**To men (n=117) %**	**To her (n=334) %**	**To men (n=331) %**	**To her (n=303) %**	**To men (n=299) %**
Yes	23.1	36.8	16.3	26.9	15.2	12.0
No	76.9	63.2	83.7	73.1	84.8	88.0
If Yes, What Kind of Tasks	**To her (n=28)***	**To men (n=45)**	**To her (n=53)**	**To men (n=87)**	**To her (n=45)**	**To men (n=35)**
· Office or secretarial work	0.0	0.0	41.5	0.0	28.9	0.0
· Detailed unskilled work	32.1	4.4	7.5	2.0	28.9	0.0
· Personal services (coffee, errands)	7.1	2.2	7.5	0.0	4.4	0.0
· Maintenance, housekeeping	28.6	2.2	18.9	0.0	0.0	0.0
· Other stereotypical feminine tasks	25.0	0.0	11.3	0.5	11.1	2.9
· Heavy, dirty or dangerous work	3.6	48.9	0.0	62.2	0.0	14.3
· Work involving authority or decision-making	0.0	15.6	7.5	7.5	8.9	22.9
· Work requiring expertise or technical skill	0.0	17.8	3.8	8.1	17.8	22.9
· Work outside the workplace	0.0	6.7	1.9	15.7	0.0	28.6
· Other stereotypical masculine activities	3.6	2.2	0.0	4.0	0.0	8.6

* Very small number of respondents

The respondents were questioned on this aspect of their own experience; they were asked whether they or their male co-workers had to perform certain tasks more often, and if so, which ones. The answers were classified in categories provided by published works on sexism at work. They are shown in Table 23.

At each level of education, **fewer than a quarter of the respondents stated that they had to perform certain tasks more often than men in the same occupation at their workplace**. Among secondary and college graduates, a higher proportion said that certain tasks were more often assigned to men, however, while the proportion was slightly lower among the university graduates. The proportion of respondents who experienced a sexual division of labour at work, as a result of the assignment of certain tasks either to them or to male co-workers, was highest at secondary level, and lowest at university level. Why? It has already been established that the kind of work done by the respondents, and presumably by men in the same occupations, varied greatly by level of education (Table 19). The incidence of work requiring physical strength, and of dirty or dangerous work, diminished as the respondents' educational level rose. It seems likely that these tasks, which are closely associated with masculine stereotypes, lend themselves "naturally" to the division of labour observed at the secondary and college level. However, it is also possible that support for sexually-stereotyped or non-stereotyped behaviour corresponds to the prevalence of different cultural norms at different levels of the occupational hierarchy.

What can be made of the fact that at the secondary and college levels, it occurred more often that specific tasks were assigned to men than to women? It might be tempting to sympathize with the men, since these tasks, if added to those common to the two sexes, represent a heavier work load. But from a different perspective, the women appear to have been excluded from opportunities for challenge, growth and professional recognition. It is likely that this difference in task assignment, far from representing the optimal use of the resources offered by workers of the two sexes, is based on a paternalistic ideology in which "strong" men play the role of gallant knights who save "delicate and fragile" women from having to do the most difficult tasks. It is, in any case, not surprising, considering that the respondents reported experiencing the same phenomenon during their training (see below, Table 58).

Thus, although in choosing their careers all of these workers had opted out of sexist occupational stereotypes, **a minority still had to contend with a sexual division of tasks in their daily work experience**. The form this division took varied according to the work context. In a firm of architects, the women might water the plants, decorate the office, and photocopy plans, while the men would be responsible for negotiating with clients. In forestry, men drove the forwarders or skidders. Female butchers were more often asked to grind meat, serve at the counter, or do the Saturday clean-up, while the men were expected to buy and transport quarters of meat. Some female surveying technicians were asked to read instruments, while their male colleagues did outdoor work or met with important clients.

There was a relationship between the sexual division of task assignment and respondents' level of satisfaction with the tasks they performed. Both secondary school and university graduates reported that the kind of work they were assigned most often was detailed but unskilled, a description that resembles the routine tasks and carrying out of orders cited earlier as most disagreeable by college and university graduates, and second most disagreable by secondary school graduates (Table 22). This may mean that the women found themselves stuck with tasks no one wanted. But the evidence is by no means conclusive, since dirty and dangerous work, which the college and secondary school graduates reported as being assigned primarily to men, also ranked high on the unpopularity list for many women (Table 22). Nor is it absolutely clear that tasks considered agreeable were systematically assigned to men, although they do not appear among the tasks assigned most often to women.

2.3 The Human Environment

"It takes a lot more psychological strength than physical strength to work in a male-dominated field." This opinion, voiced by a student preparing for a non-traditional career, suggests that social conditions, and notably human relations, are more apt to create problems than are the material conditions or physical demands in non-traditional jobs. The survey examined this central aspect of the respondents' experience.

TABLE 24 - Gender Breakdown of Co-workers and Clients

	Secondary		College		University	
Sex of Co-workers and Clients	Co-workers (n=122) %	Clients (n=122) %	Co-workers (n=361) %	Clients (n=367) %	Co-workers (n=351) %	Clients (n=355) %
Mainly men	75.4	33.6	73.1	55.3	48.7	48.7
Mainly women	9.0	6.6	6.4	2.6	14.5	6.8
Mixed	13.1	41.0	20.5	17.7	28.5	30.1
Work alone	2.5	18.9	0.0	24.5	8.3	14.4

2.3.1 Gender Breakdown of the Work Group

All of the respondents held jobs in occupations with at least twice as many men as women in the Québec labour force; to find out what this actually meant at work, the research team asked the respondents whether they spent their working hours primarily with men or with women co-workers and clients.

Table 24 shows that three-quarters of the secondary school and college graduates worked mainly with men, whereas only about half the university graduates did so. Surprisingly, a small proportion of the respondents, even though they held non-traditional jobs, reported that they worked primarily with women. The explanation is that even in milieux where traditionally-female jobs predominate, there are often a certain number of traditionally-male jobs; the butcher in a food store, for example, the doctor in a hospital, or the accountant in a bank, are indeed surrounded by women. There were also cases where a primarily female work environment had been created by the respondents themselves; for example, women architects who got together to form a firm.

With respect to clients, only a third of the secondary school graduates and half the college and university graduates worked mainly with men. Women thus appeared more frequently in the role of clients than in that of co-workers.

In considering the respondents' immediate supervisors, it would be expected, in view of the small number of women in supervisory positions and the non-traditional nature of the occupations, that nearly all the supervisors would be men; they were: 92.4% of the secondary school graduates, 88.4% of the college graduates, and 86.7% of the university graduates had male supervisors.

Summing up, the overwhelming majority of secondary and college graduates had male supervisors and worked primarily with men, although their clients tended to be of both sexes. At university level, having a male supervisor remained the norm, but men predominated among co-workers and clients in only half the cases.

TABLE 25 - Sex of Respondents' Supervisors

Supervisor	Secondary (n=119) %	College (n=361) %	University (n=301) %
Male	92.4	88.4	86.7
Female	7.6	11.6	13.3

The situation varied considerably by occupation. Among college graduates, 91.7% of police officers but only 62.1% of sales workers had mainly male co-workers; the other college level respondents fell between these extremes. At the university level, 82.9% of architects and engineers said they worked mainly with men, compared with 66.7% of mathematicians and economists, the next most male occupational group. Between a third and half of the other university graduates had primarily male co-workers, with doctors and dentists reporting the least masculine work environment.

The gender breakdown of the clientele also varied by occupation. At the secondary level, more than a quarter of printing and fabricating workers, and nearly half of technical draftspersons encountered mainly men as clients, whereas the butchers had a mixed clientele. Among college graduates, two-thirds of architectural and engineering technicians, but only one-third of police officers reported more men than women among their clients. Other college graduates fell between these two extremes. At university level, nearly three-quarters of the architects and engineers had mainly male clients, while doctors and dentists had a mixed clientele; about half of the remaining respondents said they had mainly male clients.

2.3.2 Reception by Male Co-workers

A review of the literature (Roy, 1985) suggests that women risk having problems in their relations with male co-workers mainly at the beginning of their employment. Relations apparently improve over time: one year after beginning work, there are still some problems, but women generally have access to the information they need to perform their job.

What was the respondents' experience on this score? Did their co-workers bend over backwards in their favour, or did they ostracize them? In order to focus on factors specific to relations between the sexes, the questionnaire asked the respondents to distinguish between the reactions of male and female co-workers.

Table 26 presents the results. At all three levels of education, more than 85% of the respondents considered that they had been well or very well received by their male colleagues when they commenced their present employment. The reception by women workers to the new arrivals was also deemed favourable or very favourable. The slight gap between the results concerning the respondents' reception by women and men is not statistically significant. Nor do reactions to the respondents appear to have differed significantly according to rate of female participation in an occupation, or kind of occupation.

The general impression is that women are better received in male-dominated fields than previous research had suggested, or at least, that negative experiences are the exception to the rule. There is no evidence for the existence of generalized hostility on the part of male workers, or jealousy on the part of female ones. It may be that potential recruits to the ranks of non-traditional employment encounter their greatest difficulties in obtaining employment; this possibility will be examined in the sections on training and access to employment.

As it would appear that the real hurdles to non-traditional careers occur at the outset, it seemed useful to find out whether the attitudes of colleagues had altered after the respondents had been on the job for several months, and if so, whether for better or for worse. The results appear in Table 27.

TABLE 26 - Respondents' Reception by Male and Female Co-workers

	Secondary		College		University	
Reception	**By men (n=117) %**	**By women (n=95) %**	**By men (n=365) %**	**By women (n=278) %**	**By men (n=322) %**	**By women (n=315) %**
Very favourable	30.8	43.2	23.6	33.8	26.1	27.3
Favourable	60.7	46.3	62.2	60.4	65.2	58.7
Unfavourable	4.3	9.5	12.6	5.4	8.1	13.0
Very unfavourable	4.3	1.1	1.6	0.4	0.6	1.0

Not only were a strong majority of the respondents well received when they began work, but at all three educational levels, 60% found that reactions to their presence improved over time. Where no improvement had occurred, the situation had generally remained stable; very few respondents reported that it had worsened.

At the college level, the evolution of attitudes to the respondents varied by occupation. Police officers most often experienced positive change; after them, in decreasing order, came sales workers, biological and agricultural technicians, architectural and engineering technicians, and those in physical science.

TABLE 27 - Evolution of Attitudes towards the Respondents

Evolution of Attitudes	Secondary (n=120) %	College (n=367) %	University (n=339) %
Improved	60.0	60.9	60.2
Stayed the same	35.8	37.1	37.8
Got worse	4.2	1.9	2.1

Those who reported that reactions to them had improved were asked what had contributed most to the improvement, and whether they thought it was primarily a result of their own efforts at adjustment or those of their co-workers. Had they been obliged to sacrifice part of their identity in order to be accepted? Had they worked extra hard, or had they, on the contrary, chosen an attitude of live-and-let-live to maximize their acceptability? The answers were arranged in seven categories, as shown in Table 28.

TABLE 28 - Reasons Why Attitudes towards Respondents Improved

Reasons for Improvement	Secondary (n=74) %	College (n=216) %	University (n=196) %
· She conformed to behavioural norms in her workplace	2.7	1.0	1.0
· She proved her worth	33.8	48.0	49.0
· Her easy-going personality won her acceptance	13.5	18.2	11.2
· She got angry	4.1	0.2	0.0
· The men adjusted	12.2	4.0	5.1
· Time took care of it	29.7	25.4	29.6
· Other	4.1	3.2	4.0

At all three educational levels, the same reasons, in the same order of importance, were cited for improvement in co-workers' reactions. The principal explanation was that they had proven their worth by working hard.

This factor was cited in a third of cases at secondary level, and nearly half those at the college and the university levels.

While a hard worker is generally appreciated, it is possible that, as women, the respondents were more obliged to prove themselves than men would have been. It is by no means sure that their male co-workers had to go through the same sort of initiation process. In the literature on non-traditional employment the need for women workers to earn their co-workers' approval by working doubly hard is frequently invoked. Since most of the respondents were well-received from the outset, the results of the survey do not entirely confirm these findings; but it seems clear that the respondents' situation improved after they proved their worth. The second factor, cited by more than a quarter of respondents at all three levels, was mutual acquaintance developed over time. The third factor cited was the respondents' own good nature.

2.3.3 Reactions to Respondents' Errors, Successes and Opinions

Other research has suggested that men are more readily forgiven for errors at work than women are. The respondents were presented with a list of reactions of male colleagues to errors, and asked to select the most frequent reaction to an error on their part, and to an error on the part of a male co-worker. Table 29 presents the results.

TABLE 29 - Male Co-workers' Reactions to Respondents' Errors

	Secondary		College		University	
Reaction to Errors	**Her error (n=115) %**	**Male worker's error (n=115) %**	**Her error (n=341) %**	**Male worker's error (n=337) %**	**Her error (n=288) %**	**Male worker's error (n=277) %**
Help her/him	67.8	56.5	61.6	56.0	60.4	59.2
Let her/him handle own problem	20.0	27.8	24.9	24.9	30.2	30.0
Scold her/him	3.5	3.5	2.2	3.8	1.0	1.8
Mock her/him	4.3	7.8	7.0	8.0	1.0	1.8
No reaction	1.7	3.5	2.0	4.2	3.1	4.0
Other	2.6	0.9	2.3	3.2	4.2	3.2

At all three educational levels, more than 60% of the respondents said that **the principal reaction of male colleagues would be to help them undo the damage**. The second most common reaction, cited by 20%-30% of the respondents, depending on educational level, would be to let them handle the problem themselves. The higher the educational level, the greater was the proportion of respondents who gave this answer. It is impossible to say whether this reflects the greater autonomy enjoyed by more educated workers, or their male co-workers' lack of interest in their fate. With respect to negative reactions, few respondents thought they would ever be scolded or mocked; less than one in ten at secondary and college level, and two in a hundred at university level. There was little difference between the reactions to errors of male and female workers.

Among university graduates, reactions to errors, both of the respondent and her male co-workers, varied by occupation. Lawyers and notaries, mathematicians and economists cited help from co-workers more often than respondents from other occupational groups did.

What would happen if the respondents enjoyed special success in connection with a task? Would the men congratulate them? Admire them from a distance? Would they feign indifference, or show jealousy, or would they, finally, show no reaction at all? The response of male workers to the accomplishments and successes of other men will be examined in turn.

As Table 30 shows, more than half the respondents at all three levels said the male workers' main response would be to congratulate them. If the more discreet admirers are grouped with the congratulators, between two-thirds of the respondents, at the secondary level and three-quarters, at the college and university levels, said they would receive positive feedback from their male co-workers. While a substantial minority reported studied indifference or an absence of reaction on the part of male co-workers, almost none of the respondents expected jealousy.

TABLE 30 - Male Co-workers' Reactions to Respondents' Successes

	Secondary		College		University	
Reaction to Success	**Her success (n=114) %**	**Male worker's success (n=114) %**	**Her success (n=345) %**	**Male worker's success (n=336) %**	**Her success (n=287) %**	**Male worker's success (n=279) %**
Congratulation	51.8	45.6	56.4	55.2	53.7	61.3
Covert esteem	14.0	27.2	16.4	16.9	18.5	16.5
Indifference	27.2	17.5	15.5	16.0	14.6	9.7
Jealousy	1.8	1.8	3.0	2.3	2.1	2.2
No reaction	4.4	6.1	6.3	6.3	8.7	7.5
Other	0.9	1.8	2.3	3.4	2.4	2.9

Among college graduates, there were important differences depending on occupation. Sales workers nearly always said they would be congratulated or admired; positive reactions, though still the majority, were much less pronounced in the other occupations.

With respect to the men's reactions when male colleagues experienced success, the respondents reported that, as for female workers, the reaction would usually be congratulatory; the proportion of respondents who gave this answer increased at each educational level. If discreet admirers are once again included, three-quarters of the respondents reported that male co-workers reacted positively to other men's success.

Although the most frequently cited reaction of male workers was the same with respect to the success of a male and of a female worker, certain differences deserve mention. Secondary and university graduates reported a slightly higher frequency of positive reactions to male success than to female. At the secondary level, this was due to the lower score of the admiration category and higher score of the indifference category concerning women's success. At the university level, the congratulation category was lower and the indifference higher with respect to female success. In short, at these two educational levels, respondents reported that although a woman's success would most likely be greeted positively by male colleagues, the probability of this reaction was slightly lower than in the case of a male worker's success.

Anyone who has acquired a certain competence in an occupation expects his or her professional opinions to be taken seriously. It seems, however, that even the opinions of highly competent women in non-traditional occupations are taken no more seriously than those of male beginners in their field. It was important to determine whether the respondents' experience confirmed this observation: they were asked whether their opinions on work-related subjects counted, for their supervisor and for male co-workers, as much as, less than, or more than the opinions of a male co-worker.

Table 31 shows that the great majority of the respondents, at all three levels of education, believed their supervisors took their opinions as seriously as those of male workers. In cases where men's and women's opinions were not taken equally seriously, almost as many respondents reported that their opinion carried more weight than that of male colleagues as complained that it carried less.

The majority said that their professional opinions were just as well received by male colleagues as the opinions of a male worker would be. When women's and men's opinions were not accorded equal value, it was mainly the women's opinions that were considered less valuable than men's. Secondary school graduates encountered this situation most frequently and university graduates least frequently.

Although only one respondent in ten felt that her opinions were underrated, it seemed worthwhile to learn how the respondents concerned reacted in this situation. Table 32 presents the results.

More than half of the secondary school graduates described their reaction as "pretending not to mind"; others, on the contrary, tended to get angry or to insist on giving their opinion even if it wasn't solicited. Among college graduates, the principal reaction was to "give their opinion anyway", but many also reported that they worked harder or pretended the problem did not bother them. The university graduates also tended to give their opinion, appreciated or not, but about a quarter of them preferred to work harder, while others pretended not to mind or got angry.

TABLE 31 - Comparison of Reactions to the Respondents' Professional Opinions and Those of Male Co-workers

Relative to a Male Worker, Her Opinions Matter:	Secondary		College		University	
	To her supervisor (n=115) %	To male workers (n=112) %	To her supervisor (n=345) %	To male workers (n=342) %	To her supervisor (n=274) %	To male workers (n=280) %
Less	7.8	12.5	7.5	10.7	10.6	7.1
As much	85.2	82.1	78.8	84.8	79.2	87.9
More	5.2	2.7	9.5	2.7	8.0	2.1
Other	1.7	2.7	4.2	1.8	2.2	2.9

The reaction of the secondary school graduates differed considerably from that of the other respondents. They were far more likely to "pretend not to mind", presumably in order to avoid creating bad feelings. In this connection, it should be borne in mind that they were a bit younger than the other respondents. However, the small size of the secondary school group reporting an unequal treatment of their opinion makes any generalization impossible.

TABLE 32 - Respondents' Reactions when Their Opinions Counted Less than Those of Male Co-workers

Respondent's Reaction	Secondary (n=17)* %	College (n=50) %	University (n=37) %
Worked harder	0.0	17.7	24.3
Pretended not to mind	58.8	22.7	16.2
Got angry	17.6	6.8	13.5
Complained	0.0	7.1	0.0
Gave her opinion anyway	11.8	26.7	32.4
Other	11.8	19.0	13.5

*Very small number of respondents.

2.3.4 Respondents' Relations with Their Supervisors

In the literature on women in non-traditional occupations, the theme of problematic relations with supervisors is mentioned frequently. The attitudes and behaviour of supervisors with respect to training, employment and promotion have been cited as obstacles that keep women from entering non-traditional careers, or from advancing in them. The respondents were asked whether relations with their supervisor were very good, good, bad or very bad. They were also asked whether they attributed the tenor of these relations to the supervisor's personality -- cheerful or grouchy -- or to the fact of their being women. Finally, they were asked to evaluate relations between their supervisor and their male co-workers. Table 33 illustrates their answers.

Nearly all the respondents reported very good or good relations with their immediate supervisor; about half said they were very good. This image of harmony seems to contradict the findings of other research, cited earlier. It should be noted that many of the studies in question describe women's difficulties with supervisors by citing specific examples; the large number of examples provided suggests that a serious problem existed, but the use of anecdote instead of quantification makes it impossible to confirm this impression. The fact that some women workers have poor relations with their supervisors does not make their situation typical. Also, the respondents' experience is that of young women in the mid 1980s; it may well be that older women workers, who make up a larger proportion of the respondents of other surveys, had more difficult relations with supervisors early in their careers, at a time when women's right to participate in the labour market, let alone in non-traditional jobs, was not widely accepted.

TABLE 33 - Quality of Relations with Supervisors

Quality of Relations with Supervisor	Secondary		College		University	
	Her (n=122) %	**Men (n=114) %**	**Her (n=364) %**	**Men (n=348) %**	**Her (n=308) %**	**Men (n=262) %**
Very good	47.5	38.6	49.9	42.2	54.9	45.0
Good	47.5	55.3	46.4	52.3	43.2	51.1
Bad	2.5	4.4	3.1	4.9	1.9	3.1
Very bad	2.5	1.8	0.5	0.6	0.0	0.8

Relations between the supervisor and the men at work were also judged satisfactory; almost all the respondents considered them very good or good. In fact, **it would appear that the respondents enjoyed better relations with their supervisor than their male colleagues did**; in the case of the men, relations were less often described as very good, and more often as good, than in the case of the women themselves. It is possible that the obligation women in male-dominated fields often feel to work extra hard in order to prove themselves makes them highly productive, which would make their supervisors particularly appreciative. However, the fact that women are socialized to maintain good relations with others may also give them an advantage in relations with their supervisors.

2.3.5 Sexist and Sexual Harassment

Sexual harassment consists of bothering someone, in any way whatsoever, for reasons based on sex. The victims of sexual harassment are almost always women. **Some authors make a distinction between sexist harassment, involving looks and verbal behaviour, and sexual harassment, which involves either touching, which may go as far as outright physical aggression, or sexual propositioning, which may be accompanied by threats or promises.**

The literature on this subject is extensive. Sexual harassment in the workplace is apparently very common. The seriousness of the offense depends on its form: sexist jokes are not as serious as physical aggression. It also depends on the professional status of the man involved; according to research, women find it more stressful to be harassed by their supervisors than by male co-workers, because they can put the co-workers in their place without risking penalties or the loss of their jobs.

Since those responsible for sexual harassment are men, it would seem obvious that the more male-dominated a workplace is, the more possibilities there are for harassment. But that does not mean that there is more harassment. The respondents were asked whether they had experienced any sexist or sexual harassment at work, and if so, to rate its seriousness and frequency. In order to avoid the oft-cited ambiguity between flirting and harassment, the question specified that the situation described be one the respondents had not desired. In addition, to make sure that the respondents did not cite other kinds of harassment, the questions were always explicit as to the sexual nature of the harassment.

TABLE 34- Incidence of Sexist and Sexual Harassment

Situations Involving Harassment	Secondary	College	University
	(n=121) %	(n=367) %	(n=352) %
Looks or jokes of a sexual nature:			
· often	11.6	15.4	6.0
· sometimes	23.1	27.2	24.1
· rarely	12.4	16.5	21.3
· never	52.9	40.9	48.6
	(n=121) %	(n=367) %	(n=352) %
Unsolicited touches and propositions:			
· often	2.5	0.1	0.6
· sometimes	2.5	5.3	3.7
· rarely	7.4	10.6	8.2
· never	87.6	84.1	87.5
	(n=118) %	(n=367) %	(n=351) %
Sexual propositions accompanied by threats or promises:			
· often	0.8	0.0	0.0
· sometimes	1.7	0.0	0.3
· rarely	1.7	1.9	1.4
· never	95.8	98.1	98.3

Table 34, which contains their answers, shows that **staring and disagreeble jokes of a sexual nature were the most frequent form of harassment**. Among the secondary school and university graduates, the incidence of these problems was about the same: approximately a third of the respondents experienced them often or sometimes. At the college level, the proportion was one-half. Overall, then, sexist harassment, which many people consider relatively innocuous, was the most common sort of harassment, affecting three to four respondents in ten.

More explicit sexual harassment, involving touching or active propositioning not desired by respondents, was much less frequent, and sexual propositions accompanied by threats or promises were extremely rare.

Among the college graduates, the police officers experienced a lot more harassment than respondents in other occupations; 70.3% said they were harassed sometimes or often, compared with 33.3% to 44.7% of the other respondents.

Since the hierarchical status of the aggressor contributes to the gravity of the phenomenon, the respondents were asked to identify the aggressor in their most recent experience of harassment. However, they were not asked to specify the nature of the harassment, so it is not possible to associate forms of harassment with origin.

As Table 35 shows, co-workers were the principal harassers; about half the respondents cited a co-worker, the proportion being highest among college graduates. Secondary school graduates cited supervisors in second place, while harassment by superiors was rarer at the college or university level. At these two educational levels, harassment by clients held second place, whereas at the secondary level, it came third. At all three levels, only about one respondent in ten had been harassed by a worker below her in the occupational hierarchy. However, the fact that the college and university graduates cited lower-status workers as often as supervisors suggests that if sexual harassment does indeed have its basis in a power relationship, the power in question is not necessarily that conveyed by superiority in the occupational hierarchy. Harassment comes from above or below more often than from across the way; and above all, it comes from beside the woman worker.

TABLE 35 - Perpetrator of Most Recent Act of Harassment Experienced by Respondent

Harasser	Secondary (n=53) %	College (n=209) %	University (n=182) %
Supervisor	22.6	10.1	13.2
Co-worker	45.3	58.1	47.3
Employee beneath her in rank	11.3	13.1	11.0
Client	17.0	16.3	24.7
Other	3.8	2.3	3.8

Among college and university graduates, the status of the harasser varied according to the occupation of the woman harassed. At the college level, the great majority of police officers and physical science technicians cited co-workers as their harassers, whereas only one-quarter of sales workers did so. At the university level, most accountants, administrators and mathematicians and economists identified co-workers, but only a minority of architects and engineers, lawyers and notaries, doctors and dentists did so. It is conceivable that the latter group, as liberal professionals, are more likely to experience harassment by clients, which would tie in with the relatively high proportion of university graduates overall whose most recent aggressor was a client.

How did women in non-traditional occupations react when they were sexually harassed at work? Were their reactions primarily passive; ignoring the incident, or running away, for example? Or did they react more openly, by cracking a joke or getting angry? Did they seek rdrafterthrough legal or administrative channels?

According to the respondents' answers, set out in Table 36, the most frequent reaction was to deal with the problem by making a joke of it. At all three levels of education, roughly half the respondents had reacted this way the last time they were harassed. Since most harassment takes the form of off-colour jokes, irony represents a way of paying aggressors back in kind. The second most common response was anger for secondary school graduates, and trying to ignore the harassment for college and university graduates.

TABLE 36 - Respondents' Reactions to Most Recent Harassment

Reaction to Harassment	**Secondary (n=58) %**	**College (n=208) %**	**University (n=184) %**
Ignored it	15.5	24.4	32.1
Made a joke of it	46.6	46.7	49.5
Fled the harasser	5.2	1.9	0.0
Got angry	22.4	19.0	13.0
Complained to authorities	6.9	4.1	1.6
Other	3.4	3.8	3.8

The respondents communicated their anger in a variety of ways, ranging from the mild, "I was short with him," to the more direct, "I told him where to get off," or " I gave him a slap in the face." Complaining to authorities, fleeing, and "other" reactions were cited by only a small number of respondents. The category "other" in the table includes two kinds of reactions: discussion with the harasser -- answers like "I talked it over with him," "I explained the situation to him," and visual communication, including answers like "I gave him a look of disdain," and "I gave him a cold stare."

Beyond the prevalence of joking as a means of coping with harassment at all three levels, differences also stand out: the less educated respondents were more inclined to get angry, and less inclined to ignore the harassment. Reactions to harassment also reflected the cultural influence of specific work environments. In addition, ways of communicating varied according to the position of the worker in the occupational hierarchy; at the upper levels of the hierarchy, resistance and hostility seemed to take more muted, less direct forms.

While the potential of humour as a weapon should not be underestimated, in general it would appear that the respondents, and especially the college and university graduates, chose "soft" strategies to cope with harassment whenever possible, replying in the same joking tone in which the offending remark had been made or pretending not to notice. Most probably this should be attributed to the women's minority status at work, which makes it seem more prudent to adjust than to provoke a showdown.

The fact that a certain proportion of the respondents experienced harassment some of the time confirmed that such harassment is indeed a problem in non-traditional jobs. How serious a problem is another question; that depends on the respondents' subjective perception of the incidents they experienced. They might have already had to deal with similar harassment in the past, and become accustomed to it. Or they might, on the contrary, take the incidents very much to heart and be willing to try radical measures, including quitting their jobs, to protect themselves from further problems. Table 37 shows that, in fact, only a small proportion of the respondents viewed sexist or sexual harassment in their workplace as a serious or very serious problem.

TABLE 37 - Respondents' Evaluation of the Seriousness of Sexist and Sexual Harassment at Work

Respondent's Opinion of the Seriousness of Harassment	**Secondary (n=123) %**	**College (n=366) %**	**University (n=348) %**
Very serious	3.3	2.1	0.9
Serious	6.5	5.0	2.9
Minor problem	20.3	27.7	25.9
Not a problem	69.9	65.2	70.4

At the lowest of the three educational levels, although the proportion of respondents who considered harassment serious or very serious in their milieu was still low, it was higher than at the other levels. It may be that the younger women are, the more strongly they react to harassment, or the less willing they are to tolerate it. The slightly higher incidence of the most extreme forms of harassment (Table 34) among the secondary school graduates, and the higher proportion that had been harassed by supervisors, also help explain why more respondents at this level deemed harassment a problem. The fact that a slightly higher proportion of college than university graduates considered harassment a serious or very serious problem can probably be attributed to the greater frequency with which the college graduates experienced harassment, particularly of the sexist variety.

In summary, approximately two-thirds of the respondents at each level of education considered that sexual harassment was not a problem in their work environment, whereas about a third saw it as a problem, but most often a minor one.

2.3.6 Further Training and Advancement

A recent **Relance*** survey (Michel, 1988) showed that the proportion of male graduates from college vocational programs who were still in school a year after obtaining their D.E.C. (college diploma) was twice that of female graduates. Continuing education or in-service training can help workers keep up to date in their field, broaden their range of skills, increase their job mobility, and enhance their advancement possibilities. How much access did the respondents have to training? Had they taken any courses since obtaining the degrees leading to their non-traditional jobs? Tables 38 and 39 show the answers.

Roughly half of the secondary and college graduates estimated that their employers gave them access to training. Among the university graduates, the proportion exceeded three-quarters. Paradoxically, then, access to continuing education increased with the educational level already achieved; the more educated the respondents were, the higher the proportion that said their employer offered them the chance for training. It is hard to determine whether the initiative for the training originated with the employer or the workers. Perhaps the more educated workers were more attuned to formal education than the less educated, not to mention more aware of the courses available, and consequently more likely to request training.

TABLE 38 - Respondents' Evaluation of Their Own Access to Continuing Education and That of Their Male Co-workers

Does Her Employer Provide Access to Further Training?	Secondary	College	University
For Her	(n=121) %	(n=359) %	(n=315) %
Yes	46.3	58.2	79.7
No	43.0	37.4	15.2
Do not know	10.7	4.4	5.1
For Her Male Co-workers	(n=116) %	(n=350) %	(n=281) %
More	8.6	8.4	5.3
Less	2.6	1.4	3.2
As much	79.3	85.7	86.1
Do not know	9.5	4.4	5.3

---

* **Relance** is an annual publication of the ministère de l'Éducation du Québec, Direction des études sur l'emploi et les carrières.

TABLE 39 - Level and Subject of Courses Taken since Graduation

	Secondary	College	University
Courses Taken since Graduation	(n=123) %	(n=364) %	(n=359) %
Yes	46.3	56.7	63.8
No	53.7	43.3	36.2
Level of Courses	(n=57) %	(n=206) %	(n=226) %
University	14.0	35.0	74.8
College	47.4	37.6	2.7
Other	38.6	27.5	22.6
Subject of Courses	(n=56) %	(n=207) %	(n=225) %
· English (or French, for Anglophones)	5.4	15.3	5.8
· Mathematics	8.9	5.1	0.9
· Computer science	7.1	16.7	10.7
· Management	16.1	8.8	13.3
· Job-related training	53.6	39.1	59.6
· Law or labour relations	0.0	1.7	2.2
· Other (including general interest)	8.9	13.4	7.6

Among college graduates, access to further education varied according to occupation; physical science technicians and police officers had the best access at this educational level.

Most respondents at all three educational levels reported that their male co-workers had the same access to training as they did, but respondents who considered access unequal believed that the men had better access.

Table 39 shows whether the respondents had taken any courses since obtaining their degree,[11] and if so, at what level, and in what subjects. It will be observed that **a large proportion of the respondents had followed courses since graduating, and that the proportion rises with the educational level**. The differences in score between the educational levels probably reflect the fact that greater opportunities for further education were provided by the employers of the more highly educated workers, as well as the factors discussed earlier. Beyond these differences, however, it was clear that for a high proportion of respondents at all levels, training did not end at graduation.

---

[11] This question was posed in the part of the questionnaire that deals with training. Unlike Table 38, the answers concern not only the respondents' access to training in their present job, but any courses they may have taken since graduating.

At the secondary and college levels, **the highest proportion of respondents who reported having taken courses since graduating came from graduates of training programs with a low rate of female participation**. Among the secondary school graduates, this phenomenon was related to the respondents' training program; three-quarters of the technical draftspersons continued their training after graduation, whereas only about one-third of graduates of photography and printing programs and less than a fifth of the butchers did so. Several hypotheses can be proposed to explain why those who trained in the most predominantly-male programs should also be those most involved in continuing education. Perhaps workers in the most predominantly-male occupations felt a greater need than others to be well-trained for their work because the obligation to "prove themselves" in their highly masculine environment weighed more heavily on them. Or maybe respondents in occupations with very few women were more conscious of the deficiencies resulting from their socialization. Information and techniques may also be developing more rapidly in these fields than in others, making continuing training a necessity. It is also conceivable that firms employing female graduates from the most male-dominated training programs are more inclined than others to offer their personnel training. This hypothesis is not at all far-fetched, for if it is acknowledged that the possibilities for promotion are better in firms that hire mainly men, then it may be that the more predominantly male the student population of a training program is, the more likely its graduates are to be employed in firms that use training as a path to promotion. Any of these hypotheses may prove useful, but they were not tested.

What was the educational level of the courses the respondents took? First of all, it should be understood that many of the courses consisted of in-service training or other training outside the college and university network; they appear in the table under "other." Almost half of the secondary school graduates who took courses did so at the college level. More than a third of the college graduates took more courses at the same level, and almost the same proportion took university courses. Three-quarters of the university graduates continued their education at the same level; very few enrolled in college courses. Thus, **a high proportion of graduates of secondary school and college took courses at an educational level higher than the one they had achieved**.

At all three educational levels, **the largest proportion of respondents took courses related to their jobs**; however, at the college level, this proportion was considerably lower than at the other two levels, where it accounted for the absolute majority of respondents. Courses in management and administration placed next for secondary and university graduates, and computer science for college graduates. At the university level, third place was held by computer science, at the college level, by English (or French, for Anglophones), and at the secondary level, by mathematics and "other."

Thus, **apart from training directly related to the job, management and computer science were the respondents' priorities**, coming second or third as choices for two of the three levels of education. Mathematics being a prerequisite for many college and university programs, the relative importance of this choice at the secondary level should probably be understood in terms of the respondents' desire to continue their education.

Research (Dussault, 1983) has shown that opportunities for promotion are better in firms that hire mainly men, whereas firms that employ mostly women tend to park them in a lot of dead ends. Do women who enter non-traditional fields have the same advantages in this regard, or are these advantages reserved for men? Studies of female engineers (Ellis, 1983; Jagacinski, 1983; Secor, 1983) have found that women in this field do not rise to positions of responsibility as easily as their male colleagues. To establish whether these findings held for women in non-traditional occupations in general, the authors asked the respondents whether they had had a promotion since they began working at their present job, whether they evaluated their possibilities for advancement as good or bad, and how these possibilities compared with those of men in the same firm. The answers are presented in Table 40.

TABLE 40 - Promotions Received and Respondents' Evaluation of Their Own and Male Co-workers' Advancement Opportunities

Promotion	Secondary	College	University
Promotions Received	(n=117) %	(n=362) %	(n=304) %
Yes	44.4	32.7	45.7
No	55.6	67.3	54.3
Advancement Opportunities	Secondary	College	University
For Her	(n=119) %	(n=356) %	(n=301) %
Very good	16.0	12.0	25.6
Good	52.9	42.3	43.5
Poor	17.6	27.8	20.9
Very poor	12.6	13.5	5.3
Does not know	0.8	4.5	4.7
For Male Co-workers	(n=115) %	(n=350) %	(n=271) %
Similar	73.9	79.2	75.6
Better	19.1	13.1	15.5
Worse	1.7	1.8	3.3
Does not know	5.2	5.9	5.5

Almost half of the secondary and university graduates, and almost a third of the college graduates, had been promoted since they started to work for their present employer. Without similar data on the female working population in general it is impossible to evaluate whether this is a good or poor score, but given the respondents' relative youth, it seems high.

Among college graduates, only one in five of the police officers and biological and agricultural technicians had been promoted, compared with one third of the physical science technicians and architectural and engineering technicians, and more than half of the sales workers.

The respondents, both those who had been promoted and those who had not, were asked how they saw their chances for advancement; **more than two-thirds of the secondary and university graduates and slightly over half the college graduates considered their chances very good or good.** There is a certain consistency between the answers to this question and the previous one; having enjoyed more promotions than the college graduates, the university and secondary school graduates were also more positive about their advancement possibilities.

About three-quarters of the respondents believed that male colleagues had the same opportunities for promotion that they did. The fact that the college graduates were just as convinced of their equal treatment as respondents at the other two levels, even though they had been promoted less frequently and considered their own promotion less likely, suggests that their less advantageous situation was due to factors other than sexual discrimination. A promising hypothesis is that the transition from technician to professional is a more difficult one than that from specialized worker to technician or from professional to manager.

A sizable minority of the respondents estimated that their male co-workers had better chances for promotion than they did; 19.1% of the secondary school graduates, 13.1% of the college graduates, and 15.5% of the university graduates. Hardly any of the women thought that men had poorer opportunities for advancement than they did. It should be borne in mind that the question compared evaluations of chances for promotion, and not the actual career progress of the respondents and their male colleagues. However, the respondents' subjective evaluation of their opportunities is pivotal, due to its probable influence on their aspirations and on the measures they take to achieve them.

2.4 Job Satisfaction

Access to non-traditional occupations is often presented as a way to escape the inferior conditions prevailing in the female employment ghettos, such as low wages, high unemployment, monotonous work and the absence of responsibility. Also, according to Gauthier (1984), surveys of women with non-traditional jobs have stressed the fact that the actual content of the tasks the women performed was a source of satisfaction.

The findings of several studies suggested that job satisfaction is not a monolithic phenomenon, but one that should be considered in terms of the various factors likely to influence it. The respondents were therefore asked to evaluate their satisfaction with a number of specific aspects of their work, and then to evaluate their satisfaction with doing traditionally masculine work. They were also asked about their career plans, the assumption being that if they said they intended to continue doing the same work three years later, it could be taken as a sign of satisfaction, whereas the intention to change jobs or firms would be a sign of dissatisfaction. Finally, there was a question on their general level of job satisfaction. The various questions on the subject of job satisfaction were placed at different spots in the questionnaire, in order to avoid the halo effect.

2.4.1 Satisfaction with Specific Aspects of Their Jobs

The respondents evaluated their satisfaction with seven aspects of their work: pay, working conditions, tasks, prestige, work relationships, possibilities for fulfillment, and compatibility with private life. Table 41 displays their answers.

The data analysis reveals that at each level of education, and for every one of the seven aspects considered, **at least 75% of the respondents were very satisfied or satisfied**, which suggests a very high general level of job satisfaction.

Relations with their supervisors, co-workers and clients represented the greatest source of satisfaction for the respondents. For the secondary school and university graduates the prestige associated with their trade or profession came second, and for the college graduates the tasks placed second. The tasks ranked third for university and secondary school graduates, as did working conditions for the college graduates.

Focussing on the extreme ends of the satisfaction spectrum, the same two aspects -- work relationships, and working conditions -- were deemed very satisfying by the highest proportion of respondents at each educational level, while two factors also stood out as sources of dissatisfaction -- wages, and possibilities for fulfillment -- but only among the secondary school respondents. In the remaining cases, the proportion of respondents who answered "very dissatisfied" ranged from 0.0% to 3.5%, which is too low to justify analyzing the results.

Depending on their occupation, respondents registered greater or lesser satisfaction with different aspects of their work. Among the college graduates, a much higher proportion of the police officers than of respondents in other occupations were very satisfied with their salary, which is understandable, since more than two-thirds of them reported earning over $25 000, an unusually high income for the college graduate group. The proportion of doctors and dentists, mathematicians and economists, and administrators who answered "very satisfied" concerning their earning levels was two to three times that of the lawyers and notaries, architects and engineers, and accountants.

The proportion of respondents reporting high satisfaction with their remuneration correlated closely with the proportion who in fact had high incomes; the only exception to this rule were the architects and engineers, who earned more than the majority of respondents in other occupations, but were not generally very satisfied with their incomes.

TABLE 41 - Respondents' Satisfaction with Specific Aspects of Their Jobs

Aspects of Job	Secondary				
	N	Very satisfied	Satisfied	Dissatisfied	Very Dissatisfied
Income	123	13.8	62.6	15.4	8.1
Working conditions	123	27.6	56.1	14.6	1.6
Tasks	123	21.1	67.5	8.9	2.4
Prestige	122	25.4	63.9	9.0	1.6
Work relationships	122	33.6	61.5	4.1	0.8
Fulfillment	123	26.0	51.2	15.4	7.3
Compatibility with private life	120	25.0	57.5	14.2	3.3

		College			
	N	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
Income	369	20.4	59.5	16.6	3.5
Working Conditions	369	22.4	62.6	14.3	0.7
Tasks	369	21.8	69.0	9.2	0.0
Prestige	364	17.9	65.1	14.8	2.2
Work relationships	369	32.4	60.9	5.5	1.2
Fulfillment	369	21.1	55.8	20.9	2.2
Compatibility with private life	368	19.8	61.9	17.5	0.8

	University				
	N	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
Income	359	18.4	64.9	14.5	2.2
Working conditions	359	29.2	59.3	10.9	0.6
Tasks	356	27.2	64.0	8.1	0.6
Prestige	342	23.1	69.6	7.0	0.3
Work relationships	358	34.4	60.6	4.5	0.6
Fulfillment	356	25.6	53.9	18.5	2.0
Compatibility with private life	355	23.7	55.8	18.0	2.5

Among the university graduates, satisfaction with working conditions also depended closely on the occupation. More than 40% of the administrators and mathematicians and economists were very satisfied with their working conditions, whereas in the other occupations, the proportion was only half that. With the exception of the doctors and dentists, whose rotating shifts may explain their lower satisfaction with working conditions, occupations whose respondents tended to report strong satisfaction with working conditions were occupations with many jobs in the public and para-public sectors.

If these results are compared with surveys of the teaching personnel (Cormier et al., 1985) or maintenance workers (Payeur, 1988) in the school boards and colleges, the respondents' satisfaction level appears, depending on the aspects of work under comparison, to be equal to, or higher than that of workers in the educational sector, and the proportion reporting dissatisfaction appears to be slightly lower than that in the educational system.

2.4.2 Satisfaction with Working in a Traditionally-Male Field

TABLE 42 - Respondents' Views on Traditionally-Male Nature of Their Occupations, and Satisfaction with this Aspect

	Secondary	College	University
Evaluated her Occupation as Traditionally-Male	**(n=123) %**	**(n=361) %**	**(n=353) %**
Yes	74.0	73.7	70.0
No	24.4	26.3	29.2
Did not know	1.6	0.0	0.8
If Yes, Satisfaction with This Aspect of the Job	**(n=91) %**	**(n=277) %**	**(n=253) %**
Very satisfied	54.9	47.3	41.1
Satisfied	40.7	49.8	54.9
Dissatisfied	2.2	2.7	4.0
Very dissatisfied	2.2	0.1	0.0

To establish how satisfied the respondents were with working in a non-traditional or traditionally-male occupational sector, it was first necessary to determine whether they saw their employment in these terms.[12] The results compiled in Table 42 show that **approximately three-quarters of the respondents at each educational level felt that they worked in a traditionally-male field.** The fact that more than a quarter did not think so can be explained by the composition of their work environment; it will be recalled that roughly one-quarter of secondary school and college graduates and half the university graduates reported that the majority of their co-workers were women.

---

[12] It is probable that the concept of a traditionally-male sphere of activity was viewed differently by different respondents, some of them viewing it from a historical perspective, others in statistical terms, still others on the basis of stereotypes of occupational roles.

Table 42 also shows that **virtually all of the respondents who did see themselves as working at traditionally-male jobs found this satisfying**, and that about half of them were very satisfied. It should be noted that the respondents registered greater satisfaction with this aspect of their work than with the aspects considered previously. Another interesting finding is that the proportion of respondents reporting that they were satisfied to be working in a traditionally-male occupation fell slightly as the educational level rose. This may be because the comparative advantages of non-traditional work were higher for secondary school graduates, or because more educated workers had higher expectations and aspirations, which were unlikely to be entirely satisfied. This matter will be touched on again in section 2.4.4, on the respondents' general satisfaction concerning their jobs.

At all three levels of education, only a very small minority of the respondents, under 5% in all cases, said they were disatisfied with working in a traditionally-male sphere of activity.

2.4.3 Career Plans

Establishing the extent to which people entertain doubts about their career choices is an indirect way of gleaning information about their satisfaction with their current job. Research shows that the more fulfillment people find in their work, the less likely they are to be attracted to other fields; "the better the job, the longer a person wants to keep it" (Roberge, 1979).

On the other hand, even those who are satisfied with their career choices may feel like a change after a few years at the same job. In this case, the nature of the change they foresee, and the motivating factors can offer clues concerning sources of satisfaction and dissatisfaction at their present jobs. The respondents were asked about their career plans. Table 43 presents the results.

Given a choice, more than eight in ten respondents at all three educational levels said they would still be working in the same field three years later. Compared with the results of other surveys, this proportion is high (Roberge, 1979; Corbeil and Michel, 1985; Cormier et al., 1985).

The small group of respondents who hoped to change fields were asked why and what they intended to do. Almost half of the secondary school graduates and a third of the college and university graduates specified that the change they desired involved vertical mobility; and that they intended to remain in a non-traditional occupation.[13] It may be presumed that they planned to stay in the same occupation, but wanted a promotion. An extremely small proportion hoped to work in a traditional or mixed occupation at a higher level than their present employment. There was also a sizable minority, especially among the college and university graduates, who projected a transfer to another non-traditional occupation at the same level. Finally, one-quarter of the respondents wanted to move into traditional or mixed occupations, at the same level as their present job; for example, from being an accountant to teaching accounting.

---

[13] The desired change was termed a "vertical move" when it involved a job at a higher level and a "horizontal move" when the projected employment was at the same level. The occupation was referred to as "traditional or mixed" if women made up more than a third of the work force in it, and

TABLE 43 - Career Plans

	Secondary	**College**	**University**
Would the Respondent be Working in the Same Occupation in Three Years?	(n=120) %	(n=366) %	(n=333) %
Yes	85.8	86.1	82.3
No	13.3	13.7	16.2
Did not know	0.8	0.3	1.5
If No, Nature of Change Desired	(n=15)* %	(n=49) %	(n=53) %
Horizontal move, non-traditional	13.3	32.8	37.7
Horizontal move, traditional or mixed	26.7	23.9	24.5
Vertical move, non-traditional	46.7	34.2	30.2
Vertical move, traditional or mixed	0.0	0.8	1.9
Did not know	13.4	8.3	5.7
Main Reason for Change	(n=14)* %	(n=49) %	(n=56) %
Desire for a change	14.3	12.2	37.5
Promotion	14.3	19.9	19.6
Unsatisfactory conditions	28.6	34.6	17.9
Lack of interest	7.1	0.0	3.6
Other	35.7	33.2	21.4

*Very small number of respondents

The fact that only one-quarter of those who projected a change wanted to work in a traditional or mixed field suggests that dissatisfaction with working in a non-traditional occupation was not a major factor in career change decisions among the respondents. In any case, the number of respondents who planned a change was so low that any generalization about their motives would be risky.

"non-traditional" if they did not.

The reasons the respondents cited for wanting to change their jobs were so diverse, and often so vague, that it was necessary to place a large proportion in the category "other." The most frequent explanation offered by the respondents in this group was not that they disliked their current sphere of activity, but that some other activity particularly appealed to them. A lawyer said that as an artist she could give her imagination free rein; but another respondent said she intended to change occupations because she thought that technological change pointed in that direction anyway, and another respondent expected that she would have greater power in another field. Despite the small number of respondents and the inadequacies of the categories for this question, it is possible to attribute the desire for change among the secondary school and college graduates to dissatisfaction with certain aspects of their current employment.

2.4.4 General Job Satisfaction

The respondents, having evaluated their satisfaction with various aspects of their work and indicated whether they intended to continue in the same field, were asked how satisfied they were with their jobs in **general**. Their answers appear in Table 44.

More than nine respondents in ten stated that they were satisfied or very satisfied. The answers to the questions on satisfaction with various aspects of respondents' employment had already conveyed this general impression of their attitudes; with more than three-quarters of the respondents answering "satisfied" or "very satisfied" on each item, it was to be expected that they would also have a high level of general satisfaction.

TABLE 44 - General Job Satisfaction

General Job Satisfaction	Secondary (n=123) %	College (n=369) %	University (n=354) %
Very satisfied	48.8	30.6	29.9
Satisfied	44.7	61.3	63.6
Dissatisfied	5.7	7.4	5.9
very dissatisfied	0.8	0.7	0.6

Although the proportion of the respondents expressing satisfaction was approximately the same at each educational level, the proportion who said they **were very satisfied was much larger at the secondary level** than at the college or university level. This duplicated the situation with respect to the respondents' satisfaction with working in a traditionally-male occupation (Table 42). It will be recalled that the secondary school level also had the highest proportion of respondents reporting that they found all tasks agreeable and none disagreeable.

These results contradict those of Roberge (1979), who found that interest in work rose with the social status of an occupation, which was itself closely related to educational level. Perhaps the difference is due to the non-traditional nature of the jobs. It is possible that **the secondary school graduates derived more advantages from their choice of a non-traditional career than did the respondents at the other two educational levels.** Comparison of the secondary level respondents with their female classmates can shed some light on the respondents' high level of satisfaction; given that a high proportion of those contacted by phone did not, in fact, hold jobs in the non-traditional occupations for which they had trained, it seems likely that secondary graduates who did find work in their field were all the more appreciative of it.

Among the university graduates, the level of general satisfaction depended on occupation. About four doctors and dentists and administrators in ten said they were very satisfied, as opposed to only three architects and engineers, lawyers and notaries in ten, and only two mathematicians and economists in ten. And yet, the mathematicians and economists were among the most enthusiastic about their working conditions and salary.

2.5 Hiring Conditions and Success in Seeking and Maintaining Employment

2.5.1 Hiring Conditions

The transition from school to the labour market is a critical phase. According to the literature, the more education young job-seekers have, the more easily they find work, but, paradoxically, the higher their educational level, the greater is their evaluation of their difficulty in finding employment (Roberge, 1979). Several studies have also shown that women seeking to enter non-traditional employment have to confront an additional hurdle in the form of discrimination. To help other young women find work, it seemed useful to learn what the respondents had found most helpful in obtaining their present jobs. Respondents were asked to choose a single factor from a proposed list.

The results, presented in Table 45, show that **experience in the field ranked first among the factors that had enabled the respondents at all three educational levels to obtain their employment.** Among the college and university graduates, a strong school record came next, followed at some distance by personal contacts, good references and internships. Among secondary school graduates, a good school record had the least influence (apart from the category "other"); personal contacts, good references (from former teachers or employers), and doing an internship all counted more.

Given that the respondents had graduated from three to seven years before, the jobs they held at the time of the survey were probably not their first jobs, so it is not surprising to learn that their previous experience counted heavily in the hiring process.

The greater weight of personal contacts and good references among less educated job seekers had been brought out in recent research (Roberge, 1979; Michel, 1988). The explanation lies not only in the strategies used by the job seekers, but also in the kinds of employment to which their degrees led

and the recruitment and selection procedures used for those occupations. Firefighters are not hired in the same way as accountants.

Among the college and university graduates, the factor cited as most helpful in obtaining employment varied by occupation. At the college level, two-thirds of the police officers considered their school record the major factor, whereas the sales workers, the technicians in biology and agriculture and those in physical science felt experience, including internships, counted most, and architectural and engineering technicians said personal contacts and references played a decisive role. At the university level, all the occupational categories cited experience first, with the exception of doctors and dentists, mathematicians and economists, for whom a good school record had mattered most.

TABLE 45 - Factor Most Helpful to Respondents in Finding Work

Factor Most Helpful to Respondent in Finding Work	Secondary (n=122) %	College (n=369) %	University (n=345) %
Good school record	13.9	28.6	21.7
Internship with the firm	16.4	5.2	6.4
Relevant experience	21.3	29.5	27.5
Good references	17.2	11.3	9.3
Personal contacts	19.7	12.2	14.2
Other	11.5	13.2	20.9

During their training many female secondary and college students in non-traditional programs approach the moment of their job search with a certain pessimism. How justified is it? And once they have jobs, how do the former students evaluate their reception in the job market? The respondents were asked about the influence of being women on their search for a job; had it hurt their chances, helped them, or had no effect? Table 46 illustrates the results.

At all three educational levels, **slightly over half the respondents believed that being a woman had in no way influenced the outcome of their job search.** Just over one respondent in five at the secondary level, one in four at college level, and under one in three at university level considered that being a woman had worked against them. A quarter of the secondary school graduates, the highest proportion of the three educational levels, thought that being women had helped them land a job. The proportion of college and university graduates convinced that their being a woman had had a negative influence was roughly twice the proportion that saw it as an advantage, whereas among secondary graduates, slightly more felt that it had helped than hurt them.

In short, approximately half of the respondents considered that hiring practices differed for men and women, and, with the exception of the secondary school graduates, perceived the difference as more often to the disadvantage of women.

TABLE 46 - Respondents' Evaluation of the Influence of Being a Woman on Their Job Search

Influence of Being a Woman	Secondary (n=122) %	College (n=364) %	University (n=330) %
It helped	24.6	12.4	17.6
It hurt	22.1	28.0	29.7
It had no effect	53.3	59.6	52.7

Nonetheless, the proportion of respondents convinced that being a woman had helped their job search is surprisingly high. Several factors might explain the phenomenon. Issues pertaining to work in general, and access to non-traditional jobs in particular, have mobilized many women in recent years, in independent groups, unions and professional associations. Places have been reserved for women in training programs leading to non-traditional employment, special employment services have been created to help women enter these fields, and efforts have been made to increase employers' awareness of the importance of hiring women, and, in some cases, to persuade them to abandon discriminatory hiring practices. Some of the respondents may have benefited from measures taken by employers to redress certain injustices. It is also possible that certain employers adopted hiring practices favourable to women after positive experiences with a small initial number of female employees.

2.5.2 Qualities Leading to Success in Non-traditional Jobs

Research on the personalities of women in non-traditional occupations has found that although such women do not tend to be more "masculine" than women in traditional careers, they tend to be more androgynous. In addition, several studies have sought to establish a more general character profile of women in non-traditional fields. Depending on the author, they may be portrayed as dynamic, individualistic, gifted, intellectual, independent, determined, or skillful. Those who rise to major positions of responsibility in administrations are described as having decision-making abilities, coherence, objectivity, emotional stability and analytic skills.

The research team also wanted to know which quality the respondents considered most valuable for success. One motive for this question concerned the possibility of using the answers to help young women preparing for non-traditional occupations develop or reinforce the qualities cited by the respondents as helpful in their occupations. As far as possible, the respondents' own terms for qualities were retained; similar terms were grouped and each group of qualities classified as "masculine," "feminine," or "mixed" on the basis of studies of sex stereotypes of personality characteristics.

Table 47 lists the qualities most frequently cited as essential for success. At the secondary level, attention to detail came well ahead of the other qualities, followed by human relations skills, and tolerance. College graduates also cited attention to detail most often, followed by tolerance and determination. Among university graduates, determination counted most, knowledge next, and tolerance third.

TABLE 47 - Key Quality for Success in Respondents' Jobs

Key Quality	Secondary (n=122) %	College (n=366) %	University (n=358) %
"Feminine"			
· Tolerance, flexibility, patience	14.8	15.3	14.5
· Attention to detail, perfectionism	26.2	20.9	5.0
· Human relations skills	19.7	9.6	11.2
Sub-total	**60.7**	**45.8**	**30.7**
"Masculine"			
· Determination, ambition, strategy	7.4	14.5	18.7
· Self-confidence	0.8	3.2	3.9
· Leadership	0.0	0.0	1.4
· Initiative	4.1	8.1	4.2
· Physical or manual abilities	4.9	3.7	0.6
Sub-total	17.2	29.5	28.8
"Mixed"			
· Sense of humour	1.6	0.6	0.0
· Sense of responsibility	2.5	5.7	4.7
· Knowledge, good judgement	9.0	8.2	17.3
· Hard work	6.6	7.3	11.5
· Sense of organization, method	0.0	1.7	5.0
Sub-total	**19.7**	**23.5**	**38.5**
Other	2.5	1.1	2.0

It will be observed that at all three levels the three qualities mentioned most include some of the "feminine" characteristics. Tolerance, flexibility or patience, essentially "maternal" qualities, appeared at each educational level. And attention to detail, historically associated with feminine activities like needlework and lace-making, came far ahead of the other characteristics among secondary school and college graduates.

"Feminine" qualities predominated at the secondary and college levels, and "mixed" qualities prevailed among university graduates. The more schooling respondents had, the less important they found "feminine" qualities, and the more important "mixed" characteristics were to them. "Masculine" qualities were less important at the secondary level than at the college and university levels.

It is not possible to determine the extent to which the qualities cited by respondents corresponded to the requirements of their tasks; it may also be that the respondents' evaluation of which qualities they needed most to succeed bore as much on human relations factors as on task performance. Among the secondary school graduates, those who held jobs in which women represented less than 10% of the work force attributed less importance to "feminine," and more to "mixed" qualities. This suggests that in circumstances where women feel that they are a small minority, they tend not to rely much on their "feminine" qualities, for fear of standing out even more than they already do or of provoking or exacerbating a gender-based division of tasks. At the same time, they may avoid using or developing "masculine" qualities, which could place them in direct competition with male co-workers, or cause them to be rejected. An emphasis on "mixed" qualities may be an appropriate strategy for keeping a job in these circumstances.

2.5.3 Attitudes of the Respondents' Partners

In addition to information about whether the respondents were married or lived with someone, information was also gathered on the emotional attitudes of their partners concerning the respondents' professional choices. Given their importance in the respondents' lives, their partners would be in a position to boost -- or thwart -- their career choices or progress. This factor is all the more important in that at least three-quarters of the respondents said they were married or lived with someone.

TABLE 48 - Partners' Attitudes Concerning the Respondents' Careers

	Secondary	College	University
Did the Respondent Have a Partner?	(n=122) %	(n=369) %	(n=359) %
Yes	74.6	84.1	78.3
No	25.4	15.9	21.7
Attitude of Partner	(n=88) %	(n=307) %	(n=281) %
Very positive	50.0	67.4	71.2
Positive	40.9	30.3	26.3
Negative	8.0	2.3	2.1
Very negative	1.1	0.0	0.4

A strong majority of the respondents reported that the attitudes of their partners to their career were either positive or very positive. Table 48 shows, however, that secondary school graduates had a less supportive situation; one in ten had to contend with an negative reaction on the part of her partner, and only half reported "very positive" compared with two-thirds of the college graduates and nearly three-quarters of university graduates.

The attitudes of college graduates' partners varied according to the respondent's occupation. Biological and agricultural technicians had the most enthusiastic partners, and police officers the least, with only slightly over a third reporting a very positive response by their companion. One explanation might be the fact that nearly all of the police officers worked rotating shifts, which are difficult to reconcile with the life of a couple.

2.5.4 Participation in Traditionally-Male Sports or Social Activities

Participation in sports or social activities may influence career choices by creating familiarity with certain tasks, situations or environments. By practising motocross-racing and karate, for example, an adolescent girl may overcome her fear of machines and acquire a certain familiarity with mechanics, or discover that she is stronger than she thought, all of which may contribute to the subsequent choice of a non-traditional career. It would also be interesting to know whether women in non-traditional occupations tend to take part in male sporting or social activities, either because they enjoy doing so or because they see it as a way to integrate into the social networks that arise spontaneously in every workplace.

The respondents were asked whether they participated in a "male" sport or social activity, and if so, which. The answers appear in Table 49. More than a third of the secondary school graduates and about a quarter of the college and university graduates said they were involved in sports or social activities that they considered as generally reserved for men. Most of the respondents were thus not "non-traditional" in their sporting and social orientations. It is not possible to determine at present how this compares to the Québec female work force in general.

TABLE 49 - Traditionally-Male Sports or Social Activities

	Secondary	College	University
Participated in "Masculine" Sports or Social Activities	(n=120) %	(n=368) %	(n=356) %
Yes	36.7	23.9	24.7
No	63.3	76.1	75.3
If Yes, Type of Activities	(n=42) %	(n=88) %	(n=81) %
· "Neutral" sport	16.7	25.3	56.8
· "Feminine" sport	0.0	1.1	2.5
· "Masculine" sport	64.3	63.2	28.4
· "Masculine" social activity	19.0	10.3	12.3

A larger proportion of the secondary school graduates than of the other respondents participated in "male" activities, and a higher proportion also had to perform tasks involving physical strength at work. The two phenomena may be related: possibly these respondents prepare for their heavy tasks by participating in "male" sports.

In addition to the respondents' subjective evaluation of their sporting activities as masculine or otherwise, an objective classification was carried out by the research team on the basis of the actual rate of male and female participation in the sports mentioned by the respondents.[14] According to this classification system, a fair number of the respondents who reported practising a masculine sport were in fact involved in a feminine or neutral sport. This was especially true of the university graduates. The real proportion of the respondents who participated in a masculine sporting or social activity was about three in ten for secondary school graduates, two in ten at the college level, and one in ten for the university graduates. It will be observed that participation in masculine activities fell as the educational level rose.

---

[14] As for the classifications, a sport was deemed masculine if the proportion of women in it was one-third or less; it was considered neutral if the participants included more than one-third but less than two-thirds women and feminine if two-thirds of those involved were women.

CHAPTER 3

TRAINING IN A NON-TRADITIONAL PROGRAM

In the present chapter, the focus will be on training for employment in a non-traditional field. The respondents' access to non-traditional training programs will be examined, as well as the conditions in which their training occurred, and their experience as students.

3.1 Access to Training

3.1.1 Reasons for Choosing a Non-traditional Program

An open question concerning the reasons why they chose to train in their present field was submitted to the respondents. Table 50 shows the results. **At all three levels, interest in the field came first**; it was cited by one respondent in two. If to this general interest is added an attraction to specific aspects of the field, such as wanting to work out-of-doors or liking the subject matter, then fully two-thirds of the respondents trained for their present occupation because they liked it.

The lure of a well-paid job seems to have had little effect; fewer than 1% of the respondents at all levels cited it as the determining factor. Among secondary school and college graduates, good employment prospects played a decisive role for about one respondent in ten, making this factor roughly as influential as a taste for working outdoors. At the university level, however, strong opportunities for employment attracted a sizable minority of the respondents.

At each of the three educational levels, approximately one respondent in twenty cited her rejection of traditionally-female occupations as the key element in her choice of training program; some specified that entering a non-traditional field had appealed to them because it represented a challenge. Very few explained their decision in terms of their being good in the field chosen, of pure chance, or of altruistic motives. One respondent in ten among the secondary school and university graduates, and one in twenty among the college graduates cited factors other than those enumerated, including family influence, geographical proximity and the length of the training program. These factors have been classified under "other."

In conclusion, at all levels, the principal factor underlying the respondents' decision to train for non-traditional occupations was their interest in the occupations. These results confirm those of previous research on Québec women students in non-traditional training programs (Barrette, 1984; Dumas, 1986; Carpentier and Turcotte, 1988).

At the college level, there was a correlation between the principal reasons cited for choosing particular training programs and the rate of female participation in the programs: the higher the rate of female participation, the larger the proportion of respondents citing interest as the main factor in their choice. It seems probable that training programs with very few women in them are those with which women in general are relatively unfamiliar, which would explain why they would express less interest in them.

TABLE 50 - Principal Reason for Respondents' Choice of Program

Principal Reason for Choice of Program	Secondary (n=123) %	College (n=367) %	University (n=356) %
· She knew she was good in the field	1.6	4.7	4.5
· Well-paid occupation	0.8	0.1	0.3
· Could not imagine holding a traditional female job	4.9	6.3	4.8
· Strong interest in the field	54.5	43.0	47.5
· Liked the subject matter	7.3	21.8	13.5
· Good employment prospects	7.3	9.9	17.7
· By chance	4.9	1.8	0.8
· Desire to work out-of-doors	8.1	7.1	0.6
· Altruism, social conscience	0.0	0.5	1.4
· Other	10.6	4.7	9.0

3.1.2 Individual Responsible for Bringing the Training Program to Respondents' Attention

If most respondents enrolled in a non-traditional program because they were already interested in the field, then the question arises, who stimulated their interest or directed them towards the training program in question? Two factors are involved here: influence and information.

To elicit background information on the respondents' occupational choices, the authors asked them to identify individuals who had drawn their attention to the programs they eventually followed.

Table 51 shows that a sizable proportion of respondents, roughly a quarter at the secondary level, a third at the college level, and half at the university level, answered **that no individual had played the role described in the question**. Does this reflect a high level of personal autonomy on the part of the respondents, or the lack of interest of those close to them in decisions about their education? Most likely neither, but rather the intrinsic complexity of career development; the choice of a training program brings into play numerous factors, such as socialization, media images, information the student received and personal experience.

Among those whom the respondents remembered as influential, **guidance or academic counsellors ranked first**, being cited by three respondents in ten at **the secondary and college levels**. The classification of the individuals cited by the respondents into three categories (family, peers, and school) brings to light certain patterns. At the secondary and college levels, roughly half the respondents named an individual in the school system as their original source of information about their training program. Family and peers were each only cited about 10% of the time. Among the university graduates, on the other hand, members of the three networks were cited with approximately equal frequency. The university graduates' experience also differed in that fathers, cited by one respondent in ten, emerged as the individuals who had most influenced the respondents' choice of training program.

TABLE 51 - Individual Responsible for Bringing the Program to Respondents' Attention

Who Drew Her Attention to the Program She Followed?	Secondary (n=123) %	College (n=368) %	University (n=357) %
Mother	0.0	0.6	0.3
Father	2.4	1.8	9.5
Father and mother	0.8	0.3	1.1
Other relative	9.8	6.8	5.6
Female friend	8.1	3.5	3.1
Male friend or partner	0.8	5.2	7.0
Another student	3.3	1.5	5.9
Guidance or academic counsellor	30.1	30.1	5.0
Other school staff member	6.5	8.6	5.0
Written information*	8.1	10.6	4.8
No one	24.4	30.4	51.0
Other	5.7	0.6	1.7

*Despite the formulation of the question, some respondents cited books or brochures as the stimulus of their choice.

The fact that, contrary to the situation depicted in the literature (Lee, 1984; Roy, 1985), guidance personnel figured as a major influence on the career orientations of the secondary school and college graduates, may be due to the way the question was formulated; the respondents were not asked who influenced their choices, but who drew their attention to the training programs. This way of putting the question increased the likelihood that guidance personnel would be mentioned, even if all they did was to point out the administrative procedures necessary for carrying through choices the students had already made.

At the college level, it would appear that an extra effort was made to familiarize female students with programs they tended to know little about and rarely entered. The proportion of respondents stating that no one had brought to their attention the program they eventually followed was highest among graduates of administrative technology and police technology programs, and lowest among those who had graduated from programs in electrotechnology and physical technology. Similarly, the proportion of respondents reporting that no one had told them about the program they chose was only half as large among graduates of programs in which women students represented less than 10% of the student population, as among the other respondents.

3.1.3 Personal Contacts in the Field

Along with the dearth of information on non-traditional employment, the absence of role models exercising such employment figures in the literature as a key factor in the underrepresentation of women in non-traditional fields (Lee, 1984; Yergeau, 1988). The respondents were asked whether, when they made their career choice, they knew anyone who worked or was a student in the field they had chosen, and if so, to identify the person.

According to the data displayed in Table 52, **the majority of the respondents knew neither students nor workers in the field they chose to enter**. The absence of role models for the respondents was even more widespread that that described in the literature. This may be a result of the manner in which the question was formulated; the respondents were asked to cite only individuals they knew personally, whereas in fact people they know of, even if only by seeing them on television, may also serve as role models. The choice in this survey was to focus on personal acquaintances, with whom the respondents had an actual relationship. As for the large proportion of college graduates, compared with secondary school or university graduates, who said that they knew no one in the field, this is probably attributable to the newness of many of the technical occupations performed by college graduates, and of the training programs leading to them.

Among college graduates, the proportion of respondents acquainted with someone in the field varied greatly by occupation: it was more than half among the graduates of electrotechnology programs, but fell to between a tenth and a quarter in the case of graduates from other programs. The largest proportions of respondents reporting that they knew someone in the field beforehand were found in occupations with the lowest rates of female participation. It may be that the more pronounced the non-traditional nature of the program, the more need there is for a role model. Among the university graduates, the proportion of respondents who had known someone in their occupation prior to training for it also varied according to occupation, but there was no correlation with the rate of female participation in the program. Graduates of pure science, and to a lesser extent applied science programs, were least likely to have known someone in their field before making their choice.

Among respondents who had a personal acquaintance in their occupation, was the acquaintance a man or a woman? Secondary school graduates reported men and women with equal frequency, but **two-thirds of the college graduates and three-quarters of the university graduates said that the person was a man.** This difference ties in with another observed in a subsequent section of the survey: whereas secondary school graduates often cited women friends as role models, college graduates looked to male friends or partners, as did university graduates, who also cited their fathers.

Table 52 identifies persons the respondents knew in their occupation before they began training for it. The first thing that stands out is that **not a single respondent cited her mother as her occupational role model.** Secondary school graduates cited relatives other than their parents (uncles, brothers, sisters) most often, and woman friends almost as often. At the college level, partners or companions were named most often, followed closely by relatives. University graduates referred to relatives first, and partners second, followed closely by their fathers.

TABLE 52 - Personal Contacts in the Field Chosen; Their Sex and Relation to Respondents

Did the Respondent Know Someone in the Field?	**Secondary (n=122) %**	**College (n=367) %**	**University (n=351) %**
Yes, a woman	19.7	5.7	9.4
Yes, a man	18.0	13.1	30.8
No	62.3	81.2	59.8
If Yes, Who	**(n=47) %**	**(n=70) %**	**(n=148) %**
Father	10.6	4.2	19.6
Father and mother	0.0	0.0	0.7
Other relative	36.2	30.4	30.4
Female friend	31.9	13.1	7.4
Male friend or partner	12.8	36.0	20.9
Another student	0.0	10.6	14.2
Other	8.5	5.7	6.8

The general impression is that relatives provided the occupational model for about a third of those respondents who had one. The relative importance of other contacts varied with the level of education.

3.1.4 Family and Friends: Source of Support or Opposition

Lack of support from family and friends is a factor frequently cited to explain why so small a number of women enter non-traditional training programs or employment. Some studies even describe negative reactions as something that women who want to enter non-traditional training programs should expect to confront. According to Carpentier and Turcotte (1988), at the secondary level, the choice of non-traditional programs elicited negative reactions roughly as often as positive, whereas most college students enjoyed the moral support of their families and friends of both sexes but encountered a more mixed response on the part of guidance personnel. For the purposes of the present survey it seemed useful to learn who had encouraged or discouraged the respondents when they opted for non-traditional training programs. Table 53 summarizes their answers.

TABLE 53 - Individuals Who Most Encouraged or Discouraged the Respondents' Choice of Program

Individual Who Offered Greatest Support or Opposition	Secondary		College		University	
	Support (n=123) %	Oppose (n=122) %	Support (n=367) %	Oppose (n=366) %	Support (n=355) %	Oppose (n=353) %
Mother	5.7	2.5	2.6	4.3	5.1	2.5
Father	7.3	4.9	5.1	4.5	13.8	2.3
Father and mother	17.9	7.4	23.3	3.9	22.3	3.1
Other relatives	8.1	4.1	6.3	1.7	6.2	3.4
Female friend	4.9	4.9	3.9	1.4	1.4	1.7
Male friend or lover	4.1	1.6	4.4	2.1	9.3	1.7
Another student	2.4	2.5	1.7	1.7	2.5	2.0
Guidance or academic counsellor	5.7	2.5	2.2	3.1	0.6	1.4
Other school staff	8.1	2.5	4.7	5.1	2.5	1.7
No one	33.3	67.2	44.7	70.9	34.6	78.8
Other	2.4	0.0	1.1	1.3	1.7	1.4

Roughly one-third of the secondary school and university graduates and half the college graduates said **they had received no encouragement from any quarter when they chose their training program.** Does this reflect their own spirit of independence, or the indifference of the milieu to the career choices of female students, especially those who refuse to travel the trodden path? The data do not provide a clear answer to this question. However, the lack of support does not mean opposition, but rather an absence of intervention, since, as evidence presented later in this section shows, very few of the respondents considered that anyone had discouraged them.

For respondents at all three levels, **the major source of encouragement was their families.** More than a third of the secondary school and college graduates and nearly half the university graduates cited members of their family as the most supportive persons, the parents being cited more often than any other family members. University graduates had received more encouragement from their families than secondary school or college graduates. This may have more to do with the greater stress that parents from a higher socio-economic background tend to put on their children's education than with the daughters' choice of a non-traditional career. The more supportive role of fathers at this level probably underlies the higher overall level of encouragement enjoyed by university graduates. **As for support from the educational system, it was practically non-existent**, except at the secondary level, where it placed slightly higher than support from peers.

Table 53 also shows that a great majority of the respondents, more than two-thirds at the secondary and college levels and more than three-quarters at the university level, **felt that no one had opposed their choice of training program**. Opposition diminished as the educational level rose.

When respondents did identify **individuals who had tried to discourage them, members of their family, and especially their parents, were most often the persons designated**. Secondary school and university graduates cited peers in second place and school personnel in third; with respect to the college graduates, it is disconcerting to learn that school personnel offered more opposition than the respondents' friends.

There are grounds for optimism in the fact that the proportion of respondents reporting that no one opposed their choice was twice that reporting that no one encouraged them. However, it would be a mistake to generalize from this situation to that of all women students who contemplate a non-traditional training program, because the present survey bears exclusively on individuals who were not discouraged; in cases **where efforts to discourage a student bore fruit, the student did not enter a non-traditional occupation, and hence did not participate in the survey!** Indeed it is surprising how high a proportion of the respondents persisted in their career plans despite the little support from those close to them. More than a third of the respondents, and almost half of the college graduates, received no encouragement at all, and a significant minority, ranging from a fifth to a third depending on educational level, maintained their choice in the face of opposition from those around them.

Parents were cited more frequently than others as sources of both encouragement and opposition, which is not surprising, since at the age when people choose their field of study, they are usually minors, and their parents are thus still directly involved in all their important decisions.

It is interesting that **school personnel, notably guidance and academic counsellors**, who were cited as responsible for bringing the programs many respondents chose to their attention, **were rarely cited in this section**. They were virtually absent from the ranks of the opposition, which is at least something, but it is to be regretted that they were not more actively supportive of women students whose unusual career choices could create a heightened need for encouragement.

3.2 Conditions of Female Students in Non-traditional Programs

3.2.1 Types of Programs

Some information concerning the training programs in which the respondents participated has been provided in the introduction to the survey. They had to lead to non-traditional occupations, and women had to represent fewer than 50% of their graduates. The present section looks in greater detail at the training programs in which the respondents obtained their diplomas. They cover a broad range: 22 different programs are represented at the secondary level, 25 at the college level, and 27 at the university level.

In order to analyze the data, and in particular to establish the relationship between specific training programs and respondents' experience of their training, the research team classified the training programs according to basic core programs and families of courses, a classification used at each of the three educational levels. Table 54 illustrates the breakdown. A detailed list of the training programs can be found in Appendix 2.

TABLE 54 - Types of Training Programs

Secondary (n=123)			College (n-369)			University (n=359)		
Programs	**N**	**%**	**Programs**	**N**	**%**	**Programs**	**N**	**%**
.Photography and printing	41	33.3	.Biological technology	44	11.9	.Health science	35	9.7
.Technical drafting	24	19.5	.Chemical technology	54	14.6	.Pure science	27	7.5
.Meat-cutting	24	19.5	.Architecture and engineering technology	96	26.0	.Applied science	51	14.2
.N.E.C.	34	27.6	.Electro-technology	38	10.3	.Social science	69	19.2
			.Other physical technology N.E.C.	66	17.9	.Administrative science	177	49.3
			.Police technology	40	10.8			
			.Administrative technology	28	7.6			
			.Artistic technology*	3	0.8			

*Due to the small number of respondents in this category, it was not subjected to statistical analysis.

Although all the programs included in the list prepared the respondents for non-traditional occupations, the programs themselves were not all non-traditional; the decision was to handle this by including programs in which women were a minority, which means that in some cases women represented more than a third of the students, but they always made up less than half. The experience of the respondents in this connection varied greatly; in some of the programs, women were only 1% of the graduating class, in others, 48%. Table 55 gives the average rate of female participation in the programs the respondents followed, at each level of education.

It will be observed that secondary school programs had the lowest level of female participation, and university programs the highest. This corresponds to the university graduates' employment situation; although the overall rate of female participation was lower than that in the training programs, university graduates also had the least male-dominated work environments.

TABLE 55 - Average Rate of Female Participation in the Programs

Secondary (n=121) %	College (n=369) %	University (n=359) %
26.1	29.6	33.4

3.2.2 Gender Composition of Respondents' Classes

Statistically, the women surveyed here were a minority in their programs, but they were not necessarily a minority in their classrooms. The organization of instruction may bring together students from several programs. The existence of common cores of courses, an arrangement frequently used in the colleges, is particularly apt to alter the daily circumstances of women who are a minority in their programs; students in marketing, for example, may rub elbows with those in office systems technology. In addition, the respondents' subjective perception of their situation may not correspond to the mathematical definition of a minority used here. The respondents were therefore asked to estimate the proportion of men and women in the classes they took. Table 56 presents their answers.

TABLE 56 - Respondents' Evaluation of Proportion of Male and Female Students in Their Courses

Proportion of Male and Female Students	Secondary (n=123) %	College (n=369) %	University (n=358) %
Large majority male	67.5	58.0	47.2
Small majority male	7.3	8.8	17.0
Equal number male and female	21.1	22.2	31.8
Small majority female	3.3	4.7	2.8
Large majority female	0.8	6.3	1.1

The results show that more than two-thirds of the secondary school graduates, more than half the college graduates, and slightly less than half the university graduates considered that the courses they took contained a large majority of men. However, a substantial minority of the respondents reported an equal proportion of men and women, and a small percentage had had more women than men as classmates.

The secondary school graduates clearly perceived their environment to be more masculine than the graduates of the other two levels did, and in fact, it was at their educational level that the rate of female participation in training programs was lowest. Furthermore, at all three levels, the respondents' perception of the numerical preponderance of one sex or the other in their classes bore a direct relation to the actual rate of female participation in their programs. Thus for example, respondents in programs where women represented more than one-third of the student population rarely reported having the impression that they were surrounded by men; above the level of one-third, apparently, the sense of being a minority disappeared. Graduates of secondary-level programs in photography and printing, college programs in chemical technology, and university programs in social science were the least likely to see themselves as a small minority.

It was to be expected that most of the teachers of courses that the respondents had to take in connection with their programs would be men. Information on the distribution of male and female teachers by discipline had already given this impression. Data gathered from the respondents supported it; Table 57 shows that almost all of the respondents reported that the teachers in their courses were mainly men.

TABLE 57 - Sex of Teachers of the Respondents' Courses

Were the Teachers Mainly Men?	Secondary (n=123) %	College (n=368) %	University (n=356) %
Yes	95.1	97.0	97.8
No	4.9	3.0	2.2

3.2.3 Sexual Division of Tasks during Training

Even in the same training program, boys and girls do not necessarily perform the same tasks. Studies of scientific laboratories have observed that men had a tendency to monopolize the material and equipment used for experiments (White, 1985). Since boys and girls receive different cultural conditioning and appear to have assimilated certain role stereotypes, the question of whether a sexual division of tasks had made its appearance during the training period was of some interest. Respondents who said that they had witnessed such a division in their own programs were asked for details on which tasks were assigned mainly to women, and which to men. The results are presented in Table 58.

The first thing the table shows is that **the great majority of the respondents had not observed any sexual division of tasks during their training.** Only one in ten considered that she performed certain tasks more often than men in the courses in her specialization. Predictably, in such cases, the tasks the women had to do were stereotypically-feminine tasks. At the secondary level, this meant primarily office and secretarial work, but maintenance and housekeeping came a close second. At the college and university levels, these tasks were nearly always office or secretarial work.

A minority also reported that certain tasks were more frequently the lot of men than of women. Among the secondary school and college graduates, the proportion of respondents who had observed this was twice as high as the

TABLE 58 - Incidence of Sexual Division of Tasks in the Respondents' Courses and Nature of the Tasks Involved

	Secondary		College		University	
Certain Tasks Assigned More Often To:	Her (n=122) %	Men (n=122) %	Her (n=369) %	Men (n=367) %	Her (n=356) %	Men (n=356) %
Yes	11.5	26.2	7.9	15.4	8.4	5.1
No	88.5	73.8	92.1	84.6	91.6	94.9
If So, Nature of the Tasks	Her's (n=17)* %	Men's (n=33) %	Her's (n=29) %	Men's (n=57) %	Her's (n=31) %	Men's (n=19) %
· Office or secretarial	29.4	0.0	79.2	0.0	83.9	0.0
· Detailed, unskilled	11.8	3.0	5.8	3.2	6.5	0.0
· Personal services	5.9	3.0	0.0	0.0	0.0	5.3
· Maintenance, cleaning	23.5	3.0	1.4	0.0	0.0	5.3
· Other stereotypical women's work	0.0	0.0	1.4	0.0	3.2	0.0
· Heavy, dirty, dangerous	0.0	78.8	6.3	64.9	0.0	15.8
· Involving authority or decisions	0.0	3.0	3.1	3.9	3.2	21.1
· Requiring expertise or technical skill	11.8	6.1	0.0	8.9	3.2	36.8
· Outdoor work or external relations	11.8	0.0	0.0	11.3	0.0	10.5
· Other stereotypical men's work	5.9	3.0	3.1	7.8	0.0	5.3

* Very small number of respondents

proportion reporting that women more often had to perform certain tasks. Task assignment to men was also based on sex stereotypes; in secondary school and college, boys did the heavy, dirty or dangerous work. At university, men received most assignments involving expertise, authority and decision-making.

Among the secondary school graduates, the extent to which tasks were divided on the basis of sex varied by occupation. More than half the graduates in meat-cutting techniques, but less than a third of those in photography and printing programs, and fewer than one in ten of those in drafting had observed that men tended to be assigned certain tasks. A relationship may be established between the extent of the sexual division of tasks in training, and the role of physical strength in an occupation (Table 19). Among the college graduates, differences in the division of tasks were related to the rate of female participation in the program. The proportion of respondents who said that certain tasks were assigned primarily to men was twice as high among the graduates of programs in which women represented less than 10% of the students than among the other college-level respondents. Ricard's research (1988) reached similar conclusions. The sexual division of tasks involved only a small minority at college, was most pronounced in programs that had few women in them, and found expression principally in the assignment of certain tasks to men.

If the sexual division of tasks in training and in employment (Table 23) are now compared, it emerges that **the division is much less pronounced during training**. It is also apparent that, in both situations, the proportion of respondents who reported that men had to perform certain tasks more often than women fell as the educational level rose.

With respect to both training and work situations, the question arises whether assigning certain tasks mainly to men does not furnish them with opportunities to test their mettle and learn new skills, not to mention fostering a heightened sense of their own worth. From this perspective, the sexual division of tasks in training programs is particularly harmful, because it deprives female students of chances to experiment, learn, develop a sense of their own worth, and meet new challenges. Casting girls in the role of spectators rather than actors in the classroom is like rehearsing them to accept passively the more extreme sexual division of tasks they can expect to find in employment situations. Even though a sexual division of tasks does not seem widespread in training programs, it is important that it be dealt with, because of its tendency to reinforce cultural stereotypes of men and women.

3.2.4 Incidence of Difficulties Associated with Stereotypes of Non-traditional Training Programs

Some of the obstacles that women students encounter in choosing a non-traditional career have already been explored. There is also an abundant literature on the difficulties that may occur once they have made their choice. As was done with respect to employment, the respondents were asked to indicate whether in the course of their training they often, sometimes, rarely or never experienced the difficulties listed in the questionnaire. Table 59 shows the results.

TABLE 59 - Incidence of Difficulties Associated with Stereotypes of Non-traditional Training Programs

Problems during Training		Secondary			
		%			
	N	Often	Sometimes	Rarely	Never
Scarcity of girls in class	123	10.6	4.9	10.6	74.0
Rarity of female instructors	123	18.7	5.7	10.6	65.0
Harassment by male students	123	11.4	12.2	16.3	60.2
Harassment by instructors	123	2.4	8.1	6.5	82.9
Pressure to prove herself	123	19.5	13.8	9.8	56.9
Unfamiliarity with tools	123	8.1	15.4	13.0	63.4
Lack of facilities for women	123	3.3	4.1	8.9	83.7
No access to recreational equipment	122	2.5	2.5	9.0	86.1

		College			
		%			
	N	Often	Sometimes	Rarely	Never
Scarcity of girls in class	369	10.2	9.3	15.5	65.0
Rarity of female instructors	369	30.2	12.8	11.9	45.0
Harassment by male students	369	10.1	17.5	25.2	47.2
Harassment by instructors	369	3.9	12.8	21.7	61.6
Pressure to prove herself	369	19.0	19.8	15.7	45.4
Unfamiliarity with tools	369	15.0	25.6	21.0	38.4
Lack of facilities for women	369	3.1	4.2	8.3	84.3
No access to recreational equipment	366	1.5	1.8	8.2	88.4

		University			
		%			
	N	Often	Sometimes	Rarely	Never
Scarcity of girls in class	358	12.3	11.7	8.9	67.0
Rarity of female instructors	359	33.7	14.5	6.1	45.7
Harassment by male students	359	3.9	13.4	20.6	62.1
Harassment by instructors	359	1.7	7.5	18.9	71.9
Pressure to prove herself	359	14.8	20.1	14.5	50.7
Unfamiliarity with tools	357	10.4	18.2	11.5	59.9
Lack of facilities for women	358	1.7	3.6	5.6	89.1
No access to recreational equipment	354	2.3	2.0	4.8	91.0

The first thing that stands out is that none of the eight stereotypical difficulties in the questionnaire elicited the answer "often" from a majority of the respondents at any of the three educational levels. The respondents' answers demonstrated that **some of the allegations concerning non-traditional training had a certain relevance, but that they did not present an accurate image of the everyday lives of most respondents.**

Nonetheless, some of the stereotypical attributes of non-traditional training sparked recognition in a significant proportion of the respondents. Those experienced sometimes or often by at least a third of the women interviewed will be considered first. The only one of the eight difficulties that satisfied this criterion among the secondary school graduates was pressure to prove themselves. In decreasing order, the three problems cited by college graduates were the scarcity of female instructors, unfamiliarity with the tools of their future trade, and, again, pressure to prove themselves. At the university level, the scarcity of female instructors and pressure to prove themselves were the most frequently cited difficulties. Pressure related to performance in a male-dominated milieu thus figured as an important factor at all three levels, while the scarcity of female teachers was cited by college and university graduates.

Other difficulties were mentioned less frequently: fewer than two university graduates in ten had sometimes or often had to deal with sexual harassment by male students, while roughly the same proportion of secondary school and college graduates complained that there were too few girls in their classes. About one secondary school and university graduate in ten had been sexually harassed by her instructors, as had two college graduates in ten. The lack of proper sports and recreation facilities for women or difficulties in gaining access to these facilities were rarely mentioned by the respondents. Even difficulties that were not widespread should be taken into consideration, because they could cause some students to abandon their original commitment to a non-traditional career choice. Ricard's 1988 study demonstrated that these difficulties, as well as some of those cited previously, such as unfamiliarity with the tools of the trade and stress associated with having to prove oneself were most pronounced among female students in non-traditional programs.

Among college and university graduates, there was a close correlation between the frequency of certain difficulties, the kind of training program and the rate of female participation in the program. Among college graduates, students in electrotechnology programs, which had the smallest proportion of female students, had the highest incidence of difficulties such as small number of female classmates, sexual harassment by male students, and pressure to prove themselves. These difficulties were rarely reported by graduates of chemical technology programs, one of the programs with the highest rates of female participation. **In general it would appear that the stereotypical difficulties associated with non-traditional training decrease whenever women constitute more than 33% of the students.**

It may be that when women students form a very small minority of a student population, their high visibility increases the likelihood of harassment and places them under a greater obligation to prove themselves. Also, programs with very few women in them are likely to be those most distant from the cultural universe women are familiar with, which would explain their widespread lack of familiarity with the equipment. Other difficulties, however, appear to be a function of the subculture that exists among students in certain training programs. Police trainees, for example, whose program scored in the middle range (10-33%) with respect to rate of female participation, suffered more sexual harassment by male students than other respondents did. This seems related to the fact that, on the job, police women reported sexual harassment, usually by colleagues, twice as often as college graduates in other occupations.

Among the university graduates, those in applied science programs experienced problems such as a lack of female classmates, and unfamiliarity with tools, more often than the others. Their programs also had the lowest rate of female participation at the university level; in general, at this educational level, 30% appears to be a threshold below which women students experience more difficulties.

3.2.5 Reception by Male Classmates

In addition to the factors considered above, some researchers also argue that negative comments by male students can discourage women from pursuing non-traditional careers. The respondents were therefore asked how the male students reacted to their presence in class, how much time was required to gain acceptance, and what facilitated it. Table 60, which presents the answers to the first of these questions, shows that, in general, the respondents were well received. **More than 9 out of 10 considered that their reception by the male students was either very favourable or favourable.**

TABLE 60 - Reception by Male Classmates

Reception by Male Classmates	Secondary (n=121) %	College (n=358) %	University (n=344) %
Very favourable	33.9	24.3	24.1
Favourable	57.0	69.8	72.7
Unfavourable	7.4	4.7	3.2
Very unfavourable	1.7	1.1	0.0

Among the college graduates, the impression respondents had of the men's response to female students varied considerably by program. Graduates of the police technology program were rarely very well received by their male classmates; only 5% were, compared to between 20.8% and 36.8% of the respondents in other programs. Fortunately, the police officers also reported the highest incidence of improvement in their co-workers' attitudes.

The fact that the men's reactions were judged positive overall does not necessarily mean that they were so from the start. The literature on this subject suggests that, in order to achieve acceptance, women in non-traditional programs often have to pass a sort of initiation test demonstrating that they are "as good as a man." The respondents were quizzed on this; Table 61 shows that, for most, acceptance was immediate.

However, slightly over a third of the secondary school and college graduates and somewhat over a quarter of the university graduates did not benefit from immediate acceptance. For most of these respondents, a few weeks made all the difference, but a significant minority had to wait several months, or even a year or more. Among the college and university graduates, a handful felt that they had never been truly accepted. It would be interesting to know something about the emotional impact of several weeks or months of rejection or belligerence and whether this experience ever causes women to abandon their studies. Also, the fact that a considerable minority of the respondents, from a quarter to a third depending on educational level, had to endure a period of rejection raises questions about the effectiveness of existing services for helping women who opt for non-traditional programs to integrate and overcome difficulties.

TABLE 61 - Amount of Time for Respondents to Be Accepted by Male Classmates, and Reasons for Acceptance

	Secondary	College	University
Amount of Time for Respondent to Be Accepted by Male Classmates	(n=123) %	(n=363) %	(n=355) %
Immediate	65.0	65.6	71.5
A few weeks	21.1	20.1	17.2
A few months	13.0	8.3	7.3
A year or more	0.8	4.7	2.5
Never	0.0	1.4	1.4
Factor that Contributed Most to Respondent's Acceptance, When It Was Not Immediate	(n=50) %	(n=115) %	(n=92) %
· She conformed to behavioural norms in her program	12.0	7.0	1.1
· She proved her worth	20.0	17.4	25.0
· She is good-natured	18.0	34.8	26.1
· She got angry	8.0	0.0	0.0
· The men adjusted to her	8.0	6.1	4.3
· Time took care of it	22.0	25.2	30.4
· Other	12.0	9.6	13.0

At the college level, the higher the proportion of women in a program, the higher the proportion of respondents who felt that the men in their classes accepted them right away. In programs with fewer than one-third women, acceptance appears to have taken longer. At university, the time necessary for men to accept female students varied according to the program. Virtually all the graduates of health science and social science programs and roughly two-thirds of those from pure science and administration programs reported that they had been accepted immediately, whereas only half of those in applied science, in which women constitute a small minority, had begun their training in an equally congenial atmosphere.

As Table 61 shows, even when the men's attitudes were initially unfavourable, in most cases, they changed. It is difficult to evaluate to what extent the improvement came from the men themselves and to what extent it resulted from the action of the women. Respondents who had not immediately been accepted by the male students were asked **what factor had had the most influence on their subsequent acceptance**. Did they have to ape masculine behaviour? Did they work extra hard to prove their worth? Was it their understanding that had won the men over or, on the contrary, their anger? Had the men adjusted, or was it just time that resolved the problem?

The respondents' answers were classified under six headings. At all three levels of education, the same three reasons were cited most frequently, although not in the same order of frequency at each level. They were: **time took care of it, the respondent's good nature and understanding were decisive, and the respondent proved her worth**. Conforming to the men's behavioural norms and getting angry were cited more frequently by secondary school graduates, who also, it will be recalled, had a greater tendency than respondents at other levels to react with anger to sexist or sexual harassment at work.

Relatively few respondents at any level attributed the improvement in relations with the men adjustment on the part of the men. It would seem, then, that the respondents owed their acceptance mainly to their own efforts, whether the latter took the form of conforming to the norms, proving their worth, easing the tension by responding in a good-natured manner, or clearing the air by getting angry.

3.2.6 Help from Teachers

In a review of the literature on how to encourage girls to choose non-traditional occupations, Lee (1984) noted that several studies showed that teaching personnel tend to spend more time with and pay more attention to boys than to girls, and that, especially in mathematics and science courses, they maintain an "intellectual" relationship with the boys and a "social" one with the girls. The same studies alleged that the instructional approach used by math and science teachers is not entirely compatible with the ways girls learn.

The impressions of female students do not always corroborate these analyses. Most of the female students in non-traditional programs surveyed by Dumas (1986) and Carpentier and Turcotte (1988) considered their personal contact with their teachers excellent; some were even convinced that they received more attention and encouragement than the men in the class. The respondents were therefore asked whether they had as much, less or the same amount of help from teachers as male students.

Table 62 shows that more than eight respondents in ten believed that they received the same amount of help as male students; in general the impression was that equal treatment prevailed. What is more surprising is that most of those who believed the treatment was unequal felt that they received more help than the male students did. Very few respondents reported getting less help than the men in their classes.

TABLE 62 - Help the Respondents Received from Teachers, Compared with Help Male Students Received

Amount of Help Received, Compared with Male Students	Secondary (n=123) %	College (n=367) %	University (n=353) %
Less	2.4	3.0	3.7
As much	83.7	82.6	89.2
More	13.8	14.4	7.1

Supposing that the respondents' impressions are correct, how can the greater attention devoted to female students be explained? It could reflect paternalism, but it may also be that the teachers, aware that the women in their classes were greatly outnumbered and that their socialization also placed them at a disadvantage, went out of their way to be helpful. Finally, the explanation for the extra help may lie not with the teachers but with women students, who may be more inclined than male students to ask for help when they need it.

There is an interesting parallel here with the respondents' description of the situation at work, where they reported slightly better relations between themselves and their supervisor than between male co-workers and the supervisor. Secondary school and college graduates also received more help than male colleagues when they made mistakes at work. Whether these differences between the treatment of men and women reflect paternalism, or an implicit effort to help women compensate for their disadvantages remains unclear.

3.2.7 Sexist and Sexual Harassment

The incidence of sexist and sexual harassment has already been considered in the section on stereotypes of difficulties likely to be encountered during training. The respondents were also asked how serious they felt the problem of harassment was for women students in their field. The results presented in Table 63 show that only a relatively small proportion viewed sexist or sexual harassment as very serious or serious in their discipline. Even so, harassment was a problem for more than a quarter of the secondary level graduates and a third of the college graduates.

At college, the situation varied by program; three-quarters of graduates in chemical technology, but only half of those in electrotechnology and architectural and engineering technology felt sexual harassment was not a problem. This attitude can be explained in part by statistics on the incidence of harassment by male students; respondents in the field of chemical technology were both the least numerous reporting harassment and the least likely to consider it a problem, while for respondents who had studied electrotechnology, the contrary situation prevailed. It will be recalled that the incidence of sexual harassment was inversely proportional to the rate of female participation in the program.

A similar proportion of respondents evaluated harassment as a serious or very serious problem in training and on the job. However, the results of the present survey are much lower with respect to harassment as a problem for students than the results of previous studies (Ricard and Banville, 1984; C.E.Q., 1985). It should be observed that the present survey asked respondents about the gravity of harassment in their own training program, whereas the previous studies asked about its seriousness as a social problem. In addition, the fact that the respondents in the present survey were older and had been out of school for several years probably meant that the question of harassment in school had lost some of the immediacy it may have had for them when they were students.

TABLE 63 - Respondents' Evaluation of the Seriousness of Sexist and Sexual Harassment at School

Evaluation of Harassment	Secondary (n=123) %	College (n=369) %	University (n=358) %
Very serious	4.1	0.3	0.3
Serious	5.7	7.2	3.4
Minor problem	17.1	28.2	29.6
Not a problem	73.2	64.3	66.8

3.2.8 Principal Difficulty Experienced during Training

Having measured the respondents' experience against a list of difficulties stereotypically attributed to non-traditional training programs, the survey team broadened its research focus by asking the respondents to define in their own terms the principal difficulty they had encountered during their training. The answers were grouped into three categories: difficulties of a general nature, difficulties related to the socialization of girls and difficulties related to the non-traditional nature of the training program. The first category refers to difficulties that are not exclusively or principally the lot of female students. The second category includes problems arising due to the distance between interests and abilities that girls are encouraged to develop and traditional male activities. The third category concerns the minority status of women in non-traditional programs.

The striking thing about the answers presented in Table 64 is the high proportion of respondents who reported that they had experienced no difficulties at all during their training. Of course, those with really major problems probably left their programs before graduation, and were consequently not included in the sample. Nonetheless, a substantial proportion of respondents apparently sailed through their programs. The phenomenon was particularly pronounced at the secondary level, where nearly half of the respondents reported no problems; it was less widespread among the college and university graduates. Why the difference? It might be because programs are more demanding at the higher levels of the educational system, so that the further a student gets, the more likely she is to encounter difficulties. It is also possible that by developing students' capacity to analyze and evaluate their experience, higher education increases the likelihood that graduates will review their training with a critical eye.

TABLE 64 - Principal Difficulty Experienced during Training

Principal Difficulty Experienced during Training	**Secondary (n=121) %**	**College (n=361) %**	**University (n=350) %**
General difficulties:			
• texts in English	0.0	0.8	1.1
• excessive workloads	0.8	18.2	21.7
• math or science requirements	1.7	2.7	1.7
• difficulty getting supplies or equipment	0.0	1.0	0.3
• poor teaching	7.4	8.1	11.7
• lack of money	1.7	3.9	2.9
• anxiety about employment	0.8	2.2	0.6
• other*	11.6	13.8	28.9
Sub-total	**24.0**	**50.7**	**68.9**
Difficulties related to the socialization of girls			
• lack of prior technical experience	5.0	6.8	2.6
• requirements of technical courses	7.4	2.7	0.6
• lack of confidence in ability to cope technically	2.5	1.0	1.1
Sub-total	**14.9**	**10.5**	**4.3**
Difficulties related to non-traditional nature of program			
• relations with male students	5.8	5.5	2.0
• instructors' sexism	1.7	3.1	1.1
• lack of female classmates and teachers	0.8	0.8	2.3
• other	7.4	1.3	1.4
Sub-total	**15.7**	**10.7**	**6.8**
Had no difficulties	45.5	28.1	20.0

*Distance from home (and therefore, absence from family) was often cited.

Table 64 also shows that at all three levels, the difficulties cited most were those of a general nature. The two other categories of difficulties were mentioned less frequently in general, and they grew rarer as respondents' educational level rose. About one respondent in four at the secondary level, one in two at the college level, and more than two in three among university graduates reported having had general difficulties; at the college and university levels this meant heavy workloads, too many hours of courses requiring too much studying and covering too much material. Poor teaching was also mentioned fairly frequently at each educational level; respondents complained in particular about the excessive emphasis on theory at the expense of practice, the quality of the teaching itself and the unavailability of their professors. English texts, overly demanding mathematics and science courses, difficulty in getting material for their courses, not having enough money, anxiety about jobs, the distance of the school from home, and difficulties reconciling school and work were all also cited by smaller numbers of respondents.

The principal difficulty associated with the socialization of girls was the absence of prior technical experience; some respondents said they found technical terms difficult, especially in first year, while others had difficulty getting used to unfamiliar equipment. Lack of prior experience distinguished the male and female students; the latter started from zero, whereas the former usually had a certain technical background due to their socialization.

Difficulties related to the non-traditional character of the training program mainly concerned relations with male students in class. Complaints included "being tense because the guys were on our backs all day long," "having to put up with their stupid jokes," "being the only girl and having to deal with their prejudices all alone," "the competition." Other respondents had observed signs of sexism on the part of their teachers: they had to prove themselves, were not taken as seriously as male students, had to cope with "closed-minded teachers who did not believe that a woman could succeed in their field." A few respondents cited the scarcity of female classmates and teachers, and other difficulties, such as sexist harassment by clients during their internships, poor health and safety conditions in workshops, and the increased need for physical strength due to inadequate equipment were occasionally mentioned as well.

The kind of difficulties the college graduates had experienced during their training depended on their programs. The proportion of graduates of electrotechnology programs who had experienced difficulties associated with the socialization of girls or the non-traditional nature of their program was, at 51.4%, about ten times that of the graduates in chemical technology (5.7%). It will be recalled that respondents from electrotechnology programs had also had the highest incidence of stereotypical difficulties associated with non-traditional programs, such as the scarcity of female classmates, sexual harassment by male students, pressure to prove themselves, and lack of familiarity with the equipment, whereas such difficulties were virtually nonexistent among the graduates in chemical technology.

At both the college and university levels, the type of difficulties respondents had experienced as students varied with the rate of female participation in their programs. **The larger the proportion of women in a program, the fewer the difficulties related to the socialization of girls and the non-traditional nature of the field, and the more difficulties of a general nature.**

The fact that general difficulties were cited less frequently by graduates of programs with a low rate of female participation than those of more "feminized" programs should definitely not be taken as a sign that general difficulties were rarer in programs with few women. There is no reason to believe that workloads would be light or instruction uniformly excellent in such programs any more than in others; rather, it seems probable that difficulties associated with the socialization of girls or with the non-traditional nature of programs were more severe in these programs, so that they replaced the general difficulties at the head of the list. From this perspective, they represent an additional set of problems for female students, rather than an alternate one.

3.2.9 Main Factor Leading to Success in a Non-traditional Training Program

Research on how girls relate to mathematics and science has observed that girls tend to attribute their success to effort, and boys to their intrinsic ability. The respondents were asked what factor they believed had most helped them succeed in their training program. Table 65 classifies the answers in three categories: motivation and personal effort, help from other people, and aptitudes. The table shows that **a very large majority of the respondents considered their success to be the result of motivation and personal effort.** The proportion citing their aptitudes was relatively small, and only a handful of respondents mentioned the help of others. It will be recalled that a significant proportion of the respondents reported that no one had drawn to their attention the training program they chose and that neither had anyone encouraged them in their choice of program. Clearly, the respondents' experience had taught them to rely on themselves. Among the university graduates, the tendency to attribute their success to their own efforts was somewhat stronger than at the other levels; this ties in with their also having cited the most difficulties during training, such as an excessive workload.

TABLE 65 - Main Factor Leading to Success in a Non-traditional Program

Main Factor in Success	Secondary (n=123) %	College (n=368) %	University (n=359) %
• Motivation and personal effort	80.5	81.4	88.9
• Help from other people	4.1	4.1	2.2
• Aptitudes	13.0	13.5	7.5
• Other factors	2.4	0.8	0.8
• Did not know	0.0	0.3	0.6

Although it is not possible within the confines of the present study to compare the women's results with those of their male classmates, the respondents' insistence on the pivotal role of their own effort in their success confirms the results of other research. There is no evidence that the respondents lacked confidence in their abilities but, at all three levels, they considered hard work the ticket to success.

CHAPTER 4

SUMMARY AND RECOMMENDATIONS

The final chapter summarizes the survey's main findings, showing how the respondents' experience varied with their educational level, their training program or occupation, and the rate of female participation in the program and the occupation. The respondents' suggestions for improving the situation of women in their occupations will be presented, along with other recommendations designed to help girls enter non-traditional careers.

4.1 Summing Up

4.1.1 A Generally Satisfactory Situation, with Room for Improvement

The occupational situation of the women workers interviewed appears advantageous from several points of view. The great majority had full-time, permanent employment. They reported good opportunities for both continuing training and advancement. Most of the respondents said their employer would help them get further training, and a large proportion had in fact taken courses, generally job-related training, since graduating. It seems relatively easy to rise in the ranks; almost half the secondary school and university graduates and a third of the college graduates had already had a promotion since obtaining their jobs. With the exception of the secondary school graduates, the earnings of the respondents were higher than the average for Québec women workers at the same educational levels; they were closer to the average salary for men than that for women. However, it should be stressed that a non-traditional job does not automatically entail a high income; roughly one-quarter of the secondary-level respondents earned less than $10 000 a year, an income at or below the poverty line.

The situation depicted differs considerably from stereotypical notions of women in non-traditional work, which would lead one to imagine that they work in a factory or a construction site and have to perform tasks requiring physical strength, while remaining undaunted in the face of sarcastic barbs from hostile male co-workers. In reality, more than three-quarters of the respondents had regular day hours, the great majority rarely or never had to operate heavy machinery or equipment or perform tasks requiring great physical strength, and most enjoyed harmonious relations with both co-workers and supervisors.

However, some of the negative images that make up the popular preconception of technical and blue-collar work accurately describe the working conditions of a sizable proportion of the respondents. For example, nearly half the secondary school graduates and more than a quarter of the college graduates claimed that they frequently had to do dirty work, while roughly a quarter of them reported health risks and excessive work loads. At the secondary and college levels, half of the respondents were convinced they could not perform their usual work duties if they were six months pregnant. However, it is not clear that these two negative areas in the respondents' overall job profile represent conditions inherent to non-traditional work; they may merely reflect the fact that work is not yet organized so as to take into account the specific needs of women or the health requirements of workers of either sex. It should also be observed that certain conditions attributed by the stereotype to upper-echelon "masculine" positions, such as long hours, heavy workloads and stress, although not as typical as the stereotype suggests, have more than a grain of truth in them. More than a quarter of the university graduates worked more than 44 hours a week, about half of them frequently had to handle excessive workloads, and more than a third experienced intense stress.

It is important not to ignore the less attractive aspects of the respondents' working conditions, but equally important to recognize that any of the difficulties described above can also occur in traditional women's occupations, which are by no means always as clean and comfortable as is sometimes imagined. There is no reason to believe that women working in print shops suffer from greater isolation than those working at home, that notaries experience more or worse stress than telephone operators, that physical science technicians are exposed to more environmental hazards than women workers in the textile industry, that lawyers have to travel outside their region more often than flight attendants, that butchers need more physical strength than nursing assistants, or that biological technicians perform more dirty work than nurses. Furthermore, in view of the large number of women who are beaten by their partners, one could justifiably ask whether it is not more dangerous to be a wife or companion than a police officer.

Although the number of women who have ventured into men's occupational territory remains small, those who have done so apparently have no regrets. Nine respondents in ten said they were very satisfied or satisfied with their jobs, and the same proportion hoped to be working at the same activity in three years. The fact that a quarter of the respondents considered none of their job tasks disagreeable also suggests a high level of job satisfaction.

Tasks involving contact with others, or a major responsibility for design and organization of projects were the most popular with respondents at all three educational levels. These findings challenge the popular view that traditional men's work concerns mainly objects and techniques, and involves very little human contact, as well as the idea that women are not interested in accepting positions of responsibility at work.

Social relations on the job seem good. Nine respondents in ten reported that relations with their immediate supervisor were good or very good, and between eight and nine thought that they had been well accepted from the start by male co-workers. In general their mistakes were not met with hostility from male co-workers, nor did their successes arouse jealousy. Although a third of the respondents said they were sometimes or often the butt of sexist jokes or sexual comments, nine out of ten felt that sexual harassment was not a serious problem in their workplace.

The respondents' description of their training period was generally quite positive, although many of them gave the impression that they had had to rely entirely on their own resources. Most had chosen their field because they liked it, and not due to the influence of a role model; nearly two-thirds of them knew no one studying or working in their field when they chose it. At the secondary and college levels, school guidance and academic counsellors had had a major hand in stimulating the respondents' interest in their training programs; at the university level, the tendency was for respondents' fathers and mates to play this role. After they had chosen their programs, the respondents received the most encouragement from parents and members of their extended family, and almost no encouragement at all from the school system. Efforts to dissuade them from their choice of training program were only half as frequent as expressions of moral support, and, like the latter, came mostly from the respondents' family. Since students on whom this negative propaganda had worked were no longer in the non-traditional field they had chosen, and consequently not among the respondents, it is impossible to draw any further conclusions.

It is remarkable how high a proportion of the respondents went through all the phases of their training without any support from others; almost a quarter of the secondary school graduates, almost a third of the college graduates, and half of the university graduates claimed no one had drawn their attention to the program they had followed, while more than a third of those at the secondary and university levels and nearly half of the college graduates had persisted in their choice without any encouragement, and between a fifth and a third of the respondents, depending on educational level, had faced active efforts to discourage them.

The great majority of the respondents had observed no gender-based division of tasks during their training. However, even though the assignment of certain tasks to either women or men was reported only by a small minority of the respondents, there is a danger that it could widen the gap that already exists as a result of the different socialization of girls and boys. Surely instructors who assign errands and office work mainly to women students, and give male students the tasks requiring physical strength, technical skills and decision-making deprive the women of opportunities to learn and develop self-esteem.

Overall, only a tiny minority had to deal regularly with many of the problems commonly assumed to plague women who train in non-traditional fields. However, these difficulties were not wholly absent from the students' lives; a significant minority cited the stress to prove themselves, the scarcity of women instructors, and their lack of familiarity with the equipment. But other problems, including sexual harassment by male students and teachers, the scarcity of female classmates and a lack of recreational facilities for women had rarely or never arisen for the majority of respondents.

The school community appears to have been relatively open to the presence of female students. More than nine respondents in ten said that their male classmates had given them a favourable or very favourable reception. However, acceptance was not necessarily immediate. More than a third of the secondary school and college graduates and more than a quarter of the university graduates reported that it took some time for them to be accepted. In most cases, it required a few weeks of waiting patiently, working extra hard, using humour or getting angry for the women to win the acceptance of their male classmates. In general they felt that male and female students were treated equally by instructors; a few respondents even believed that they had received more help from their teachers than male classmates had.

The educational experience of a large proportion of the respondents seems to have been virtually problem-free. Nearly half of the secondary school graduates, more than a quarter of the college graduates and a fifth of the university graduates did not experience any difficulty during their education. Those who did have problems cited **mainly general problems** that any student might experience, such as too many hours of courses, too much studying, too much theory. However, a minority -- nearly a third at the secondary level, more than a fifth among college graduates, and more than a tenth of university graduates -- had encountered difficulties specifically associated with either the inadequacies of girls' socialization or the non-traditional nature of the program. The absence of prior technical experience and poor relations with male classmates are examples of this kind of difficulty, which would be improbable among either male students, or female students in traditional fields.

In short, with respect to hiring, tasks, relations in the workplace, the weight of their opinion, and opportunities for promotion, the situation of most respondents closely resembled that of their male co-workers. However, where the respondents' situation differed from that of male students or workers, with two exceptions (better relations with supervisors, and more help from teachers), the difference was to the women's detriment. The survey results also bring out certain difficulties that men are unlikely to encounter: sexual harassment, socialization that either really handicapped the women or was experienced as doing so, and the need for strategies that demand a great deal of energy, such as working extra hard in order to earn the men's esteem, or pretending not to notice harassment.

On the one hand, then, for nine respondents in ten, non-traditional career choices were working out beautifully, but on the other hand, one respondent in ten had to put up with hostility from a co-worker, supervisor or partner, one in ten had a bad reception from co-workers when she first started her job, three in ten experienced sexist harassment and one in ten serious sexual harassment; one in ten found that her opinion counted less than that of a man, one in ten felt that she was less likely to be promoted, two in ten believed that being a woman had hindered their career, and one in ten had confronted active opposition by family members to her choice of occupation. If the respondents' experience offers an accurate picture of what girls entering non-traditional careers can expect in the near future, the situation is still far from rosy.

4.1.2 Different Experiences at Different Educational Levels

The overview presented above can be qualified by the addition of details concerning the specific conditions of respondents at each of the three educational levels; the survey brought to light considerable variation in this connection. With respect to employment status, **the university graduates had the largest proportion of permanent jobs**, and the college graduates the smallest proportion. The level of union membership was only half as high among university graduates as at the secondary and college levels; this may be due to the fact that a larger proportion of university graduates were either self-employed or in management positions. Income also also varied greatly depending on educational level; for secondary school graduates the median income fell in the $10 000-$14 000 bracket, for college graduates it was $5 000 higher, and for university graduates, $15 000 higher again. For the respondents, **getting an education meant getting ahead, at least financially.** However, the university graduates also tended to put in longer hours than those at the other two levels; one-quarter worked more than 44 hours a week.

Access to training rose with the educational level; the university graduates reported the most, and the secondary level graduates the fewest possibilities for training offered by their employer. The proportion of respondents who had taken courses since obtaining their jobs also increased with the educational level; a greater interest in education on the part of the more highly educated respondents, and a consequently greater tendency to ask their employer for training or to take courses on their own initiative could explain these differences. Promotions were rarest among college graduates, which may be because advancement criteria in most firms favour the transition from specialized worker to technician, and from professional to manager, over that from technician to professional.

There were also differences with respect to the physical conditions in which non-traditional occupations were practised. **The higher the respondents' educational level, the fewer of the difficulties popularly attributed to non-traditional work were they likely to encounter**; this suggests that the stereotypical notion of non-traditional occupations, though still exaggerated, applies more to the situation of secondary and college graduates than to that of university graduates. The former more frequently had to do dirty work or work requiring physical strength or involving exposure to health hazards. However, the latter more often faced excessive workloads or intense stress. The difference in working conditions also influenced the possibility of reconciling pregnancy and professional activity; about half the secondary and college graduates considered it impossible for a woman who was six months pregnant to perform the tasks of their job, whereas at the university level, the proportion who held this opinion was only one in ten. The proportion of respondents who had observed a sex-based division of tasks was considerably lower at the college level than at the secondary level, and lower still among university graduates. The higher incidence in the jobs held by secondary and college graduates of stereotypical "men's work," such as dirty work or work requiring physical strength or involving health risks, probably explains the greater tendency towards a sexual division of tasks at these two levels.

As for human relations on the job, at all three levels the respondents' immediate supervisor was usually a man, but with respect to co-workers, there appears to have been more diversity at university level; less than half the university graduates reported that their co-workers were primarily male, compared with approximately three-quarters of the secondary and college graduates. Respondents at all three educational levels reported similar reactions by male co-workers when they began working, but the tenor of

subsequent relations with men at work varied by educational level. Non-intervention when respondents made mistakes and positive reactions, ranging from covert admiration to congratulation, in cases of success, were reported with greater frequency as the educational level rose. **Sexist and sexual harassment were most common among college graduates,** almost half of whom sometimes or often received crude looks or were the butt of sexual jokes, whereas only about a third of the secondary and university respondents reported this sort of behaviour. At all three levels, but especially at the college level, harassment by co-workers was the most widespread; a larger proportion of secondary school graduates than of other respondents cited supervisors, and university graduates had more problems than others with clients. These differences may be attributed to differences in the kinds of jobs held by respondents, some jobs placing them in greater contact with supervisors, some with co-workers, and others with clients.

Job satisfaction was high in general, but highest for secondary school graduates. The proportion of the latter that said they were very satisfied both with their jobs and with working in a male-dominated field was the largest of the three groups, and they also reported more frequently than respondents from other levels that they enjoyed all their tasks at work and disliked none. As noted earlier, it seems plausible that women with secondary school diplomas probably derive more advantages from their non-traditional choices than women at higher educational levels. The fact that many of their classmates were unemployed or employed in traditional jobs probably also contributed to their positive evaluation of their situation.

Secondary school graduates also differed with respect to the means they relied on for getting and keeping their jobs. Their school record played a less important role than it did for graduates of other levels, and they were more likely to count on personal contacts, references and internships. They were the most numerous to report that being a woman had helped them land a job. In their evaluation of which quality was the key to success at work, they tended to cite "feminine" characteristics, such as a sense of detail, a feeling for human relations, and tolerance, as did college graduates to a slightly lesser extent, whereas university graduates cited "mixed" qualities, such as knowledge and hard work.

Secondary graduates were the most apt to participate in so-called masculine sporting and social activities, and it may be that they did this as training for the heavy physical activities they were often called on to do at work.

In general, the respondents' partners accepted their occupational choices, but the secondary school graduates received less support than the others; only half considered their partners' attitude very favourable, compared with two-thirds of the college graduates, and nearly three-quarters of the university graduates. One secondary school graduate in ten had to deal with a partner's opposition to her career choice.

Turning to the respondents' evaluation of their experience as students, the first item to note is that **most of the respondents chose their program because they were interested in it.** Good job opportunities also figured prominently for the university graduates, while many secondary and college graduates cited the attraction of working outdoors. The influence of people the respondents knew on their career choice depended on their educational level. University graduates had the highest proportion of respondents claiming that no one had brought their program to their attention. Almost a third of the secondary school and college graduates reported that school guidance and academic counsellors had first interested them in their program, while university graduates cited their fathers twice as often as school personnel. College graduates had the fewest personal acquaintances in their future occupation to serve as role models. It was at the secondary level that there were the most women role models, mainly because many of the respondents had friends already involved in the field. At the college and university levels, role models were more consistently male: friends and partners in the first case, and fathers in the second. College graduates had received the least encouragement from their entourage; almost half considered that they had not had any at all, compared with about a third at the secondary and university levels. Efforts by individuals close to the respondents to dissuade them from their career choices also diminished in frequency as the educational level rose.

The higher the educational level, the less likely classrooms were to be male-dominated; more than two-thirds of secondary school respondents, and more than half of the college graduates claimed that their classmates were predominantly male, but less than a third of the university graduates did so. The sexual division of tasks also decreased as the educational level rose, especially the practice of assigning specific tasks only to male students; the pattern was the same with respect to the situation in the workplace.

As for difficulties experienced during their training, all the respondents reported pressure to prove themselves, but more college graduates than others cited their lack of familiarity with equipment, and both college and university graduates mentioned the lack of female professors. Secondary school graduates seem to have been spared many of the difficulties the others encountered. Almost half had not had any problems worth reporting, compared with slightly over a quarter of the college graduates and only one-fifth of the university graduates. Also, whereas the university graduates' problems had been almost exclusively of a general nature, college graduates reported a somewhat higher incidence of problems associated either with the socialization of girls or with the non-traditional nature of the training program, and at the secondary level, such problems took precedence over general difficulties.

On questions of social relations, secondary school graduates had had the most positive reaction from their male classmates: a third evaluated the men's attitudes as very favourable, versus a quarter of the college and university graduates. However, university graduates were apparently accepted the most readily. Secondary school graduates also reported the least sexist and sexual harassment during their training period. Although the vast majority of respondents considered that they had been treated by teachers on an equal footing with male students, at the secondary and college levels, a slightly higher proportion than at university believed they had received extra attention.

4.1.3 Variations in Experience by Occupation and Training Program

Even at the same educational level, respondents' circumstances varied depending on their workplace, tasks and occupation. Among secondary school graduates, **drafting technicians enjoyed several advantages**: in addition to having the best salary, they rarely had to work in isolation, do dirty jobs or perform work requiring physical strength. More than three-quarters of them thought they could handle their professional duties while pregnant. **Women in printing and fabricating occupations reported more difficult working conditions.** More than a third sometimes or often experienced isolation or did physically demanding work, nearly three-quarters had to do dirty work, and only half felt that they could carry on as usual if they were six months pregnant. **Butchers had less day work, and they were not as well paid** as other secondary-level graduates. They experienced little isolation, but tasks requiring physical strength and dirty work were the norm for them. Four out of five considered it out of the question to perform their usual tasks if they were six months pregnant. The proportion of butchers who were union members, however, was twice as high as that of secondary school graduates in other occupations.

The secondary school graduates' experience as students was more homogeneous, but in this connection too, there were some differences depending on the training program followed. A larger proportion of graduates of technical drafting programs had taken courses since graduating than of respondents in other occupations at this level. Photography and printing graduates had received less encouragement from their family and friends than graduates of other programs, and graduates in meat-cutting reported the most extreme sex-based division of tasks.

Among college graduates, architectural and engineering technicians felt better able to reconcile pregnancy with their job responsibilities than other respondents. Physical science technicians were most exposed to health hazards and often had to do dirty jobs as well; nine out of ten said that pregnancy would pose problems in their line of work. The respondents who took the most courses after graduating were the physical science technicians. The partners of biological and agricultural technicians showed the greatest openness towards their careers, but respondents in these occupations were also the least likely to hold permanent jobs, had received few promotions and most frequently had to do dirty work and work requiring physical strength. **Police officers had the highest salaries and the highest rate of union membership**, and a large proportion had taken courses since obtaining their diplomas. However, **they also had the most irregular hours and the fewest promotions** of any occupational group at this level, registered the most scepticism about the possibility of performing their regular tasks while pregnant, received the least moral support from partners, and **suffered the highest incidence of sexist harassment**, mainly by co-workers. Respondents in sales and services were the least unionized of the college graduates and had to travel outside their region more than other respondents at this level, but they also enjoyed certain advantages: they were rarely exposed to health hazards; most thought that continuing to work as usual while pregnant would not pose much of a problem; they got a great deal of positive feedback when they succeeded, and they were promoted more than other respondents at this educational level. The graduates in chemical technology and administrative technology had the lowest incidence of difficulties associated with stereotypes of non-traditional programs, such as sexual harassment, pressure to prove themselves, and unfamiliarity with the tools of the trade. These problems were most widespread for the graduates of electrotechnology programs and architectural and engineering programs. On the other hand, the male students in architectural and engineering technology apparently gave the best reception to women in their program. Students in electrotechnology programs benefited from knowing someone in the field more often than students in other disciplines, but suffered most from a scarcity of women classmates, sexual harassment by classmates and other stereotypical difficulties of non-traditional training, such as lack of familiarity with the equipment, and poor relations with male classmates. Graduates of police technology programs had received a relatively poor welcome from classmates, and experienced a good deal of harassment from the same source. No special characteristics distinguished the educational experience of respondents who completed programs in biological and agricultural technology or other physical N.E.C. technology.

Among the university graduates, accountants had the highest incidence of permanent employment and one of the shortest work weeks. However, they had the lowest level of union membership and the lowest salaries. Lawyers and notaries put in the longest and most irregular hours. The proportion who belonged to unions was low, as were their incomes, and they reported more stress and greater isolation than other university graduates. Administrators had permanent jobs almost as often as accountants, and shared with mathematicians and economists the highest level of satisfaction with their working conditions. They ranked just after doctors and dentists with respect to enthusiasm for their jobs in general. There is little to distinguish the architects and engineers from the average, save perhaps a relatively low proportion of permanent jobs and their long hours. Doctors and dentists earned the most, and, despite having irregular hours, had the highest rate of job satisfaction. Mathematicians and economists had the shortest hours and usually worked days, experienced the least stress, had a high rate of union membership, and were generally very satisfied with their working conditions. However, they had the lowest proportion of permanent jobs, experienced the greatest isolation, and registered the lowest overall job satisfaction.

Among university graduates, the variation in educational experience from one program to the next was minimal. It should nonetheless be noted that the graduates of health science and social science programs enjoyed more immediate acceptance by male students, while pure science had the highest proportion of respondents who had chosen their program without knowing anyone in the field and pursued their training without receiving encouragement from anyone at all. Graduates of applied science programs likewise had few role models in the field, and in addition, suffered most from a scarcity of women classmates, unfamiliarity with the equipment, and slow acceptance by the men.

4.1.4 Variations in Experience Based on the Rate of Female Participation in Occupations and Training Programs

It seems reasonable to suppose that women working at occupations in which they were a very small minority would tend to have the most and the most serious problems. The investigation of the relationship between the rate of female participation and the respondents' experience in their jobs or training programs was based on this hypothesis.

The occupational situation of secondary school and college graduates does not appear to have varied as a function of the rate of female participation in their occupations. Among university graduates, however, respondents in occupations where women represented less than 20% of the personnel were the least likely to have permanent jobs and the most likely to work over 35 hours a week. One plausible explanation is that in occupations with few women workers, the schedules are set up to suit men, whose hours can be extended precisely because they have women at home taking care of family responsibilities.

There was a clearer relationship between rate of female participation and the respondents' experience with respect to training programs. At the college level, there seem to have been certain advantages associated with studying in programs with a small minority of women. The lower the rate of female participation in a program, the larger the proportion of respondents who had taken courses since graduating. Also, graduates of programs with very low female participation -- under 10% -- had more frequently benefited from having someone draw the program to their attention, and more often knew people in the field who could serve as role models. However, the lower the proportion of women in a program, the higher the incidence of certain difficulties, as well. This was observed with respect to efforts to discourage female students from making non-traditional choices, the assignment of certain tasks to male students only, the scarcity of women classmates, sexist or sexual harassment, the pressure to prove their worth, unfamiliarity with equipment, the slowness of acceptance by male students, and sexual discrimination during the job search. Most of these difficulties diminished considerably when the proportion of female students in a program exceeded a third.

University graduates from programs with fewer than 30% women were more likely to experience a scarcity of women friends and inadequate familiarity with the equipment, and also more apt to cite as their chief difficulty the fact of being a woman in a male domain.

4.2 Measures Proposed by the Respondents for Encouraging Non-traditional Career Choices

One of the objectives of the present survey was to enable the ministère de l'Éducation to develop strategies for encouraging young women to choose non-traditional careers. What measures would most effectively prompt girls to venture from the beaten path? The respondents, who could call on their recent experience of what helped and hindered them, seemed ideal sources of suggestions.

Since the question put to the respondents was an open one, the answers were highly varied. Often they were very complete and well thought out, with a wealth of practical details: virtual programs for convincing girls to choose non-traditional careers. For purposes of analysis, they were classified in seven categories, as shown in Table 66.

The table illustrates the respondents' strong emphasis on information directed at the female students themselves. At each of the three educational levels, the most popular measure was to make girls aware of their non-traditional employment options. In the respondents' opinions, this clearly involved more, and more effectively-distributed, information about the jobs themselves, as well as an effort to debunk stereotypes of non-traditional work, and these campaigns should reach girls as early as possible in their education. The suggestions included "talking more about job opportunities," "advertising on television," "showing people that women can do the work and that the jobs are not as dangerous as all that," "preparing girls to cope with sexism," and "ceasing to describe loggers as savages."

TABLE 66 - Measures Proposed by the Respondents* for Encouraging Non-traditional Career Choices

Measures	Secondary (n=103) %	College (n=338) %	University (n=326) %
· Inform female students	41.7	52.4	42.9
· Give higher visibility to women in non-traditional fields; give girls models	12.6	12.1	11.7
· Give girls direct experience of non-traditional work	2.9	2.1	0.9
· Educate school staff	4.9	3.6	4.9
· Educate parents and society	1.0	7.4	10.4
· Set up a program to encourage girls	6.8	6.8	8.9
· Other measures	30.1	15.7	20.2

* Respondents who answered "do not know" have been eliminated.

In a nutshell, then, the first suggestion was that more and better information on non-traditional employment should reach female students earlier in their education. In this connection it is relevant that a high proportion of the respondents, ranging from a quarter to half depending on educational level, claimed that no one had drawn their attention to the programs they followed, which may be interpreted as a lack of information.

The second-ranking suggestion at all three educational levels was to give women in non-traditional jobs a higher profile: "provide examples of women who have succeeded," "invite them to come and talk about their experiences," "portray them on television." In other words, information by itself is not enough; girls also need role models who can provoke interest in a field or focus vague aspirations. The fact that when they chose their program, a majority of the respondents knew no one who was already studying or working in their field shows how appropriate this suggestion is.

Another proposal was to have girls experience for themselves aspects of certain non-traditional occupations by means of visits, workshops or internships. Although this suggestion did not figure prominently among the respondents' recommendations, it supplements other measures addressed directly to girls. It also underlines the respondents' feeling that they had had to make their non-traditional career choices without any help or encouragement. Enhancing school personnel's awareness of non-traditional career options for girls was mentioned by relatively few of the respondents. However, it may be observed that this measure is implicit in others that were recommended more often, since efforts to inform female students and encourage them to enter male-dominated occupations would necessarily involve school personnel.

A small proportion of respondents favoured efforts to educate parents, and society in general, stating that "equality begins at home," and "parents should let their daughters abandon dolls and repair bicycles instead." The popularity of these ideas increased slightly with the educational level of the respondents. The fact that more than half of the university graduates cited members of their family as the people who had given them the most encouragement in their career plans illustrates the importance of the family in this connection.

One very broad suggestion that would require intervention at several levels was to set up a whole program to encourage girls to enter non-traditional careers. The idea was to provide more information, hire more female instructors, organize more internships, and educate male students, as well as employers, to be less sexist." In short, this suggestion emphasized diversifying the measures employed, focussing on several aspects of the problem at once, and above all, organizing the various measures into a comprehensive program that would be integrated into the students' other educational activities.

Imprecise suggestions like "change the employers' heads," "educate men," "change people's ways of thinking," "turn the world upside down," "get men off our backs," and "don't push too much, things are changing by themselves," were classified under the heading "other measures." Such proposals suggest that some of the respondents, although convinced that change was necessary, were not clear as to how to bring about the changes they desired. The handful of proposals concerning legislative measures, such as "the government should reserve positions for women in these fields," and "the government should pass better laws for the protection of pregnant women," were also classified under "other."

4.3 Realistic Proposals for Necessary Change

On the basis of the survey's findings, it is possible to identify certain measures that would favour the integration of women into non-traditional areas of education and employment. Improving the situation of female students and workers may require general measures that affect the whole student or working population. The discussion that follows does not exclude such measures, but it focuses primarily on those that bear more directly on non-traditional training and employment for women.

4.3.1 Making Non-traditional Careers More Accessible

EDUCATING PARENTS

The important role played by family in the respondents' career decisions has already been brought out; parents were the principal source of both support and opposition when the young women chose their training programs. Among university graduates, it was often the fathers who had interested their daughters in non-traditional occupations. At all three levels, respondents who had had occupational role models generally found them in their families. **It is thus pivotal to involve parents more actively in efforts to diversify female students' career choices.** Campaigns should be organized to educate parents about the advantages that non-traditional occupations can offer their daughters, to warn them about pitfalls that the girls may encounter, and to consider what they can do to help. It is essential that the parents' role not be limited to the passive intake of information; their experience should be solicited in identifying factors that keep girls from entering non-traditional work, and in seeking solutions.

Parents' committees and school committees, as well as certain women's organizations, such as the Association féminine d'éducation et d'action sociale, that are already active on issues related to non-traditional work, can provide schools with invaluable help in their efforts to reach parents.

MAKING USE OF PEERS

The peer group (male and female friends, partners, other students) also has an important influence on women's career development, as the survey showed. Many respondents reported that a peer had first interested them in non-traditional work, or that a peer, already studying or employed in a non-traditional occupation, had served as a role model for them. Among college and university graduates, peers even ranked ahead of school personnel as a source of encouragement. Clearly it is essential to take this factor into account in any program aimed at increasing women's presence in non-traditional sectors.

This involves working on boys' attitudes so that, instead of deterring girls, they further their non-traditional choices. It also means giving girls who are already training in non-traditional fields a high profile in strategies aimed at informing students and recruiting them to these occupations. A number of teaching institutions have applied such policies in recent years, for example by having female students in non-traditional programs lead workshops on vocational training in a comprehensive secondary school, staff information booths on physical technology programs at a college, talk about their experience as students in science and engineering faculties, or show girls from secondary school around their college. **Using peers to popularize non-traditional careers** has the advantage of diversifying the information provided to students, and of conveying it in intellectual and emotional terms close to their own experience.

GETTING SCHOOL PERSONNEL MORE INVOLVED

Many of the secondary school and college graduates cited school staff, and especially guidance and career counsellors, as the persons responsible for getting them interested in non-traditional careers. However, it seems that once they had performed this role, they offered virtually no encouragement to students in non-traditional programs. College graduates even reported that they had received more opposition from school personnel than from peers.

These findings confirm the need to maintain guidance services in teaching establishments. They also suggest that guidance counsellors and career-choice educators should be given intensified training and provided with the means to **offer female students support in other ways than by simply conveying information.** The survey also showed that other categories of school staff had a very minor role in interesting students in non-traditional choices or in offering help to those already taking non-traditional courses. Why not involve science, technology and vocational training teachers more?

Guidance and career counsellors should not be solely responsible for combatting stereotypes about career choices; every effort should be made to **foster involvement by all school personnel** in efforts to diversify girls' educational and occupational choices.

GETTING FEMALE STUDENTS INTERESTED

The survey showed that most respondents had chosen the program that led to their non-traditional jobs on the basis of their interest in the field. To be interested, they already had to know at least a little about the field. But information on non-traditional occupations is not always readily available. The respondents themselves stressed the importance of getting more and better information to girls, and of doing so earlier in their education and pointed out that women in non-traditional occupations should be given a higher profile.

The information conveyed should not be purely technical; it should include detailed descriptions of what it is like to study or work in non-traditional fields. The present survey demonstrates that the experience of women in non-traditional occupations varies considerably from the preconceptions that people tend to have about such occupations. The publication of these findings in a form accessible to secondary students would in itself help get rid of one factor that has discouraged girls from entering non-traditional jobs, the notion that they are dirty and require physical strength. Also, as suggested earlier, this information would probably be most effective if it were **conveyed by women** in non-traditional programs or occupations. By using such spokespersons, school staff would also be offering girls role models, which the survey showed they often lack. Another way to compensate for the dearth of role models, would be to include many **more references to women** in the curricula and teaching materials. This modification should be a priority when programs and the accompanying guides are revised.

Another way to get girls interested in non-traditional sectors is to give them a chance to explore them first-hand. Visits to vocational education workshops or to non-traditional workplaces can be highly effective if an effort is made to demonstrate that the occupation, or the particular workplace, is open to female participation. Practical workshops on career orientation should also be organized specifically for girls, so that they can see how their interests and skills mesh with certain non-traditional jobs. The organization of activities of this sort, to which girls have little access in their family or social lives, is up to the schools, because they have the necessary personnel and equipment.

Some of the women interviewed considered their success in a non-traditional job to be a result of using "feminine" qualities, and this is a key factor to bring out in information and recruitment activities. Girls should understand that their interests and abilities are compatible with non-traditional occupations. Being good at drawing can just as easily point students in the direction of architectural technology as in that of graphic arts; they have to know this. Girls are more likely to want to enter non-traditional careers if they are assured in advance that they will not have to act just like boys.

FACILITATING ADULT WOMEN'S ACCESS TO NON-TRADITIONAL EMPLOYMENT

The survey showed that young women were not the only ones who trained for non-traditional occupations; some of the recent graduates were in their forties, or even their fifties. It should not be overlooked that adult women returning to the labour market or beginning a second career have different needs than those of adolescents. In this connection, the maintenance of existing information and training programs designed to familiarize adult women with non-traditional job options or to help them acquire the scientific and technical prerequisites they lack is of the utmost importance. In addition, a number of places in non-traditional training programs should be set aside for them.

A PLAN OF ACTION TO RECRUIT GIRLS TO NON-TRADITIONAL PROGRAMS

Female participation is growing especially slowly in certain non-traditional fields, such as physical technology and engineering programs. It is increasingly clear that time alone will not improve the situation, and that unbiased information and guidance counselling will not be enough to counteract the sexually stereotyped messages that students assimilate. For several years now, the ministère de l'Éducation and the ministère de l'Enseignement supérieur et de la Science have offered guidelines for action and have provided school staff with a variety of instructional materials designed to encourage girls to prepare for non-traditional jobs. Teaching institutions have altered their recruitment policies in order to raise female enrollment in non-traditional programs. They have rewritten the information brochures on these programs to focus more on the social and psychological aspects of professional education that are likely to interest girls, and have asked young women in non-traditional programs to come and talk to groups of students. Following the example of certain firms, educational institutions have used financial incentives; one school board offered a scholarship of $1 000 to girls who took non-traditional programs. In addition to helping the girls financially, this measure has the advantage of giving high visibility to the issue of non-traditional employment. However, these valuable initiatives remain few and far between. Furthermore, although such measures are essential, they have not always been effective, probably because they lacked the support of a comprehensive approach that would go beyond the limits of changes in recruitment procedure. **It is time for an in-depth analysis to find out which aspects of policy, programs, admission procedures or actual training contribute to keeping girls out of non-traditional education.** This analysis could form the basis for a plan to improve the situation. In this connection, the evaluation that is currently underway of the affirmative action program for women in the school system could furnish valuable tips on how to increase female participation in non-traditional programs. The recent changes in the Charter of Human Rights and Freedoms, bearing on **affirmative action programs**, also pave the way for the establishment of such programs for **female students**. Surely such possibilities deserve serious consideration.

It is also vital that the concern with women's access to non-traditional occupations reach beyond the confines of the schools **to include the community as a whole**. Measures undertaken by the schools will be all the more effective if they have the support of professional associations, political groups and businesses.

4.3.2 Improving Conditions for Female Students in Non-traditional Programs

INCREASING THE AWARENESS OF SCHOOL STAFF

Although the majority of the survey's respondents described their experience as students in non-traditional programs in fairly positive terms, some reported a sexual division of tasks, while a significant minority, ranging from a quarter at the secondary level to one in 25 at the university level, were sexually harassed by male students and about a tenth were harassed by instructors. A third sometimes or often experienced pressure to prove themselves. Other problems, such as a poor welcome from male students and bad relations with them, and sexist behaviour by teachers, even if reported less frequently, must be included in the list of potential hurdles awaiting girls who embark on non-traditional training.

Such obstacles, which tend to occur several at a time, can lead girls to drop out of their programs. School personnel, and especially those involved in non-traditional programs, must be made aware of the importance of **teaching in a non-sexist manner** and encouraged to take action, particularly with the male students, so that the female students can pursue their studies in a non-discriminatory atmosphere. Teachers might also encourage female students to participate more and to assert themselves in class. Action-research, (White, 1985; Yeargeau, 1988), in which teachers work together to analyze educational conditions in their classrooms and propose solutions to problems, has been highly instructive in this respect.

Given the strong influence peers can exert on girls' non-traditional career decisions, an effort should be made **to educate boys on how to handle the presence of girls in their courses**, and specific activities should be planned for this purpose. Also, since the graduates of certain programs, such as meat-cutting in secondary school, police technology and electrotechnology at the college level and pure and applied science at the university level reported a much higher incidence of sexism than others, the persons in charge of those programs should pay special attention to this problem.

CREATING A MUTUAL SUPPORT NETWORK AND A PROCEDURE FOR SEEKING REDRESS

Some of the difficulties covered in the preceding paragraphs require intervention by school personnel. In other instances, talking with other women who have been through similar experiences will help students resolve their problems, without recourse to any authority. The school staff should actively **encourage the emergence of a mutual support network for female students in non-traditional programs**. Giving them a place to meet, as well, may help them to perceive and articulate what action by school staff and services can be most helpful to them.

There is every reason to believe that efforts to encourage non-sexist attitudes on the part of school personnel and male students will diminish the incidence of sexist and sexual harassment, but schools still have to create mechanisms by which victims of harassment can seek redress. There are virtually no such mechanisms at present. The absence of a specific body to whom to complain in case of harassment deprives victims of necessary psychological support and shrouds the phenomenon of harassment in obscurity, where it can thrive undisturbed. Change is urgent on this front.

GIVING FEMALE STUDENTS EXPERIENCE WITH TOOLS AND TECHNIQUES

A sizable minority of girls and women who enter non-traditional training programs experience problems due to their lack of familiarity with the equipment and techniques. The situation seems worst in the colleges, where more than 40% of the respondents had problems of this sort. Also, some women felt that a lack of experience and of confidence in their technical ability was the principal difficulty they encountered in the course of their training. Many other students probably avoided or dropped out of non-traditional training programs due to similar problems relating to technical phenomena.

It is to be hoped that the Introduction to Technology course, which has recently been made obligatory for secondary students of both sexes, will be effective in helping girls to become familiar with technical and technological phenomena. However, this course, being mainly theoretical, will not compensate for a lack of practical experience; to achieve that, female students should have many more opportunities to visit workshops and classes, and above all, **hands-on experience with technical processes in order to feel more at ease with them**. Depending on the gap between the girls' technical background and the requirements of the various non-traditional programs, such activities might involve anything from a one-day introduction to the equipment and techniques used in the field, to a full-fledged preparatory or remedial training session. Guidance and training activities created for adult women can offer considerable help in organizing workshops designed to familiarize adolescents with techniques. Some courses currently offered by schools, such as "Initiation aux métiers non traditionnels,"* and "Préformation à la formation technologique"* contain valuable material that could readily be adapted for use with younger students. The same is true of workshops in skill acquisition and evaluation that have been set up by volunteer groups to help adult women gain access to non-traditional occupations.

INCREASING RECRUITMENT OF FEMALE STUDENTS

The survey brought to light the fact that many of the difficulties that female students encounter in non-traditional programs diminish when there are more women in the programs. Many of the stereotypical problems associated with non-traditional education appeared to be absent from programs in which women represented one-third or more of the students. For example, at the college level, the sexual division of tasks, the scarcity of female classmates, sexual harassment by male students, pressure to prove oneself, slow acceptance by male students, and, in general, difficulties that form part of the stereotype of non-traditional work, were far more pronounced in programs where women were a small minority. Clearly, **recruitment efforts should be stepped up in programs with very few women**.

The minority status of female students is accentuated by the underrepresentation of women as instructors in non-traditional programs. A quarter of the secondary school graduates and half of the college and university graduates in the survey reported that the scarcity of women teachers was quite often a problem for them. These findings suggest that **affirmative action programs for women working in the school system should be maintained**, and confirm the importance of taking into account, in the application of such programs, not only the representation of women in the staff, but also their distribution in the various fields of instruction.

Care must also be taken to prevent situations in which female students form a small, isolated minority in classes or schools. From this perspective, **the proposal that trade and technical schools be revived seems like a mistake**; the creation of comprehensive schools as part of the educational reforms of the 1960s was a fundamental achievement for women because it made possible the establishment of greater gender balance in the school environment. It is consequently important to ensure that current rationalization measures, reflected in the geographical distribution of vocational education programs, neither reinforce nor recreate educational ghettos, which are extremely hard to get rid of. On the local level, school administrations should pay close attention to the sexual composition of classes, trying as far as possible to group female students together. When this proves impossible, other measures should be taken **to prevent the girls from feeling isolated**. One approach might be to set up a buddy system with female students in the next year of the program or in other non-traditional programs.

---

* "Introduction to non-traditional occupations" and "Preparatory training for technological education." Translator's note: This is a free translation.

RETHINKING THE ORGANIZATION OF EDUCATION

The difficulties experienced by the respondents in the course of their education were primarily general difficulties that any student might encounter. A heavy workload and poor teaching were cited most frequently; according to the respondents, their programs were too dense and too theoretical. Their observations raise the issue of whether programs should be lightened, whether useless prerequisites should be abolished, and whether, and how, to link course content with students' concerns.

Since it may also be supposed that students find their academic workload especially hard if they are obliged to hold jobs at the same time, complaints about the workload have to be related to the question of financial aid.

4.3.3 Easing the Transition from School to Non-traditional Work

INVESTIGATING THE EMPLOYMENT SITUATION OF GRADUATES OF NON-TRADITIONAL PROGRAMS

The screening of potential respondents carried out by telephone before the survey revealed that the majority of the graduates of secondary-level programs leading to non-traditional employment were not, in fact, employed in their fields. Apparently, the transition from school to jobs occasions serious problems for many students in non-traditional fields. Worse problems than for male students? Further research on women students and workers in non-traditional fields, as well as analysis of **Relance** data would be required in order to delineate the difficulties experienced by women graduates of non-traditional programs in their search for jobs. Student placement officers in the school system should make an effort to distinguish the specific employment situation of female graduates of non-traditional programs from that of graduates in general. Research along these lines should be carried out prior to the creation of any plan to improve the employment situation of young people.

INCREASING THE CONTACT BETWEEN SCHOOL AND JOB MARKET

The respondents, who had all succeeded in obtaining non-traditional jobs, stressed the importance of prior experience in their field, personal contacts and internships in helping them find jobs. At the secondary level, internships ranked higher even than good school records. This is a convincing argument for **greater contact between the school and the job market**. Such contact could make training programs more practical and better suited to the needs of the market, dissipate the fears and prejudices of employers concerning girls' abilities for non-traditional occupations, and give female students anxious about a potentially-hostile environment a chance to get to know that environment beforehand.

Internships seem a promising way to help female students, because they provide a context in which they can acquire, by trial and error, a familiarity with the equipment and techniques in their field which, due to the outdated equipment and the sexual division of tasks at school, they may still lack upon completion of their programs.

EDUCATING EMPLOYERS

A sizable minority of the respondents, between two and three in ten, depending on educational level, considered that being a woman had hindered their job search. Certainly women's access to non-traditional jobs **depends on employers' cooperation**. They have to accept the idea of women working at jobs for which, until now, they have only hired men. Educational campaigns will be necessary in order **to convince employers that women represent a valuable resource**, make them aware of their obligations as regards respect for human rights, and train them to use new, non-discriminatory selection and management methods. School placement officers should also create opportunities for contact between employers and female students in non-traditional programs. Finally, it would be effective and inexpensive to include information on women in non-traditional occupations as part of campaigns promoting vocational and higher education.

PREPARING GIRLS

It would seem that, pending the day when sexual discrimination disappears altogether, women will continue to be obliged to handle prejudice by being better prepared than men in their field. Having a better school record than male students may help female candidates land non-traditional jobs some of the time, but, as the survey showed, school records play a minor role at the secondary level. To help them deal with the difficult conditions they may encounter, graduating female students should receive training in **job search methods**. A section devoted to looking for non-traditional work should be added to or incorporated into the general program.

It is important to calm graduates' fears, to discuss with them the best strategies for winning over reluctant employers, to familiarize them with organizations and groups that help women enter non-traditional jobs and to make sure they know their rights and the possibilities for seeking redress if they are victims of discrimination.

SETTING UP PROGRAMS TO HELP GRADUATES OF NON-TRADITIONAL PROGRAMS FIND JOBS

Some proven approaches to helping young people find work may be adaptable for use with women seeking non-traditional jobs. Recruitment competitions open only to recent graduates of non-traditional programs would be one example, as would employment bonds issued to finance the wages of women workers in non-traditional jobs for specified periods, and grants for "getting started," such as those offered to graduates in administration. But first, the employment difficulties of students in each non-traditional program should be analyzed, and existing programs for helping young people find jobs should be evaluated in order to determine when, how and where to take action for maximum effectiveness.

4.3.4 Improving the Situation of Women in Non-traditional Jobs

PROTECTING HEALTH AND SAFETY ON THE JOB

The survey made it clear that some of the problems that form part of the popular image of non-traditional work were in fact rare. However, the majority of the respondents sometimes or often had excessive workloads, while half of the secondary school and college graduates, and one-quarter of the university graduates experienced intense stress. A fairly large proportion of the secondary school and college respondents had to do work that entailed risks for their health, and half of them considered that their job could not be performed by women who were six months pregnant. These findings reflect the deplorable health and safety conditions that prevail in a large number of workplaces in Québec. Obviously they also underline the importance of improving the training young people receive, as part of vocational education programs, in health and safety measures to adopt for their own protection on the job. Along similar lines, as other research has shown, physical fitness programs should be included in the education of female students in non-traditional programs (T.N.T., 1987). In-service preventive and curative programs, such as training in health and safety or workshops on occupational burnout, are also important. Financial resources should be devoted to the maintenance and improvement of occupational health and safety programs, and especially to the re-assignment of pregnant workers. But above all, the prevalence of unsafe working conditions points to an urgent need to rethink the human and material organization of work so that workers no longer have to lose their lives to earn their living. An effort should be made to eliminate health hazards at the source, to redesign tasks so that they no longer involve excessive workloads and stress, and to modify equipment to make it suitable for use by male and female workers of every size and weight. Such measures would make it easier to keep women in non-traditional jobs on a long-term basis.

It should not be forgotten that the double workday -- domestic plus career responsibilities -- that characterizes many women's lives, increases women's vulnerability to heavy workloads, stress and occupational diseases. Measures like paid parental leave, day care and school cafeterias, involving community responsibility for child care, can make an enormous difference in the lives of women in non-traditional occupations, as of other women workers.

EDUCATING THE WORKERS

Although most of the respondents claimed they were treated on an equal footing with men in their workplace, some experienced difficulties in their relations with male co-workers. Some men gave women a cool reception, some refused to take their professional opinions seriously and some subjected them to sexist or sexual harassment. Even if these problems proved less typical than is commonly supposed, they deserve serious attention. They can poison the lives of women in non-traditional occupations, prompting them to leave jobs they might otherwise have enjoyed, and they are also likely to discourage other women from entering non-traditional fields.

It may be supposed that making male students aware of these problems will reduce their tendency to give women workers a hard time. Career choice education and personal and social education programs offer a good context for efforts along these lines, as do activities designed to prepare students in vocational programs for the job market. Employers and supervisors should make sure not only that they themselves do not practise harassment, but also that they are assuming their full responsibility to provide a workplace free of discrimination.

Women themselves will be better equipped to counteract sexism if they have been educated to take their proper place alongside men and to defend themselves against sexism of all kinds. Women's groups, such as committees on women's rights and union committees, can have an empowering effect by enabling women to express their needs and affirm their rights in the workplace without fear of being singled out for reprisals. The inclusion in union contracts of clauses on sexual harassment represents a valuable asset.

CONCLUSION

Both the high overall level of satisfaction of women in non-traditional jobs and forecasts concerning employment needs confirm the importance of efforts to increase women's participation in non-traditional training programs and occupations. However, the data analysis also showed that women students and workers in non-traditional fields encountered certain difficulties. A number of suggestions for improving the situation have been presented. Clearly it will be easier to induce women to enter fields they have avoided up to now if they can be assured of pleasant, non-discriminatory educational and working conditions.

The ministère de l'Éducation has a major role to play in the diversification of women's career options. However, many of the measures required go beyond the Ministère's mandate. It is to be hoped that the findings of the present survey will influence the thinking and planning of other ministries whose concerns include women's access to non-traditional employment, such as the ministère de l'Enseignement supérieur et de la Science and the ministère de la Main-d'oeuvre et de la Sécurité du revenu. Employers' organizations, professional associations, unions, community and women's groups should also find in the study material that can bolster their efforts to promote female participation in non-traditional occupations, so that the goal of occupational equality may be achieved in the not-too-distant future.

APPENDIX 1

THE RESPONDENTS' JOBS: BREAKDOWN OF THE OCCUPATIONAL CATEGORIES IN TABLE 10

SECONDARY SCHOOL GRADUATES

C.C.D.O.*	Occupations	Number
	Workers in Printing, Fabricating, Assembling and Repairing Occupations	**42**
8223	Workers in the field of milk-processing and related occupations	1
8355	Planers, turners, shapers, and workers in related wood machining occupations	1
8515	Workers in aircraft fabricating and assembling occupations, N.E.C.	1
8587	Watch and clock repairers	1
8529	Workers in other fabricating and assembling operations, metal products, N.E.C.	1
8535	Installers and repairers of electronic and related equipment, N.E.C.	4
8541	Cabinet and wood furniture makers	1
8576	Inspectors of rubber and plastic products	2
8578	Labourers/elemental workers, rubber and plastic products	1
8585	Business and commercial machine mechanics and repairers	2
9511	Typesetters and compositors	8
9512	Printing press operators	6
9515	Photoengravers	13
	Draftspersons	**27**
2163	Architectural and engineering draftspersons	22
2165	Architectural and engineering technicians	5
	Butchers	**23**
8215	Slaughterers and meat packers	23
	Other, Not Elsewhere Classified (N.E.C.)	**31**
1116	Government inspectors	1
2135	Biological and agricultural technicians	1
3315	Photographers and camera operators	6
3339	Performing arts and audiovisual artists and technicians, N.E.C.	1
5130	Sales supervisors, commodities	3
5133	Commercial travellers	1
6112	Police agents and detectives	1

*Codes used in the Canadian Classification and Dictionary of Occupations.

7111	Farmers	2
7113	Animal farmers	2
7115	Crop farmers	2
7131	Farm managers	1
7195	Nursery workers	1
7511	Forestry conservation agents	4
7516	Log inspectors	3
9113	Air traffic controllers	2

COLLEGE GRADUATES

	Architectural and Engineering Technologists	**193**
2143	Civil engineers	1
2163	Architectural and engineering draftspersons	64
2165	Architectural and engineering technicians	126
2169	Other workers in architecture and engineering, N.E.C.	1
2319	City planners	1
	Physical Science Technicians	**38**
2111	Chemists	1
2117	Physical science technicians	36
2119	Other physical science workers, N.E.C.	1
	Life Science Technicians	**38**
2135	Biological and agricultural technicians	25
2139	Other workers in life science, N.E.C.	1
7111	Farmers	4
7113	Animal farmers	1
7131	Farm managers	1
7180	Forewomen, other farming, horticultural and animal-husbandry activities	2
7195	Nursery workers	2
7511	Forestry conservation agents	1
7516	Log inspectors	1
	Police Agents	**37**
6112	Police agents and detectives, government	33
6115	Police and investigators, private	4
	Forewomen and Workers, Sales and Services	**30**
4150	Supervisors, material recording, scheduling and distributing	1
4151	Production clerks	3
4153	Shipping and receiving clerks	3
4155	Stock clerks	1
5130	Sales supervisors, commodities	5
5131	Technical sales personnel	8
5133	Commercial travellers	2
5170	Sales supervisors, services	3
5177	Business service sales representatives	4

	Other, N.E.C.	**33**
1116	Government inspectors	5
1143	Production managers	2
1145	Construction managers	1
1176	Inspectors, non-government	2
1179	Managers and administrators, N.E.C.	3
3315	Photographers and camera operators	1
6141	Funeral directors and embalmers	1
6199	Other service workers, N.E.C.	1
8146	Inspectors, metal processing	1
8148	Labourers, metal processing	1
8230	Forewomen, wood processing	1
8260	Forewomen, textile processing	2
8336	Inspectors, metal shaping and forming	1
8535	Installers and repairers of electronic equipment	
8736	Inspectors, electrical equipment	1
8796	Inspectors, construction	2
9151	Deck officers	1
9511	Typesetters and compositors	1
9515	Photoengravers	1
9555	Sound and video equipment operators	3

UNIVERSITY GRADUATES

	Accountants	**93**
1171	Accountants, auditors and other financial officers	93
	Lawyers and Notaries	**61**
2343	Lawyers and notaries	61
	Managers and Administrators	**60**
1119	Government administrators	2
1130	Executive directors and senior managers	2
1131	Managers, science	2
1133	Administrators, education	4
1135	Financial managers	1
1136	Personnel managers	6
1137	Sales and advertising managers	7
1141	Merchandise purchasing managers	1
1142	Services managers	3
1143	Production managers	1
1179	Other managers and administrators, N.E.C.	31
	Architects and Engineers	**42**
2141	Architects	14
2142	Chemical engineers	2
2143	Civil engineers	8
2144	Electrical engineers	4
2147	Mechanical engineers	1
2153	Mining engineers	1

2154	Petroleum engineers	1
2155	Aerospace engineers	1
2159	Architects and engineers, N.E.C.	2
2163	Architectural and engineering draftspersons	1
2165	Architectural and engineering technicians	6
2319	City planners	1
	Doctors and Dentists	**36**
3111	Physicians and surgeons	26
3113	Dentists	10
	Mathematicians and Economists	**30**
2181	Mathematicians, statisticians and actuaries	20
2311	Economists	10
	Other, N.E.C.	**37**
1116	Government inspectors	3
1176	Non-government inspectors	1
2111	Chemists	4
2113	Physicists	3
2131	Agricultural scientists	5
2135	Life science technicians	3
2139	Other workers in life science, N.E.C.	1
5130	Sales supervisors, commodities	4
5131	Technical sales personnel	3
5133	Commercial travellers	2
5170	Sales supervisors, services	6
5171	Insurance brokers and agents	1
5190	Supervisors, other sales occupations	1

APPENDIX 2

TRAINING PROGRAMS FOLLOWED BY THE RESPONDENTS: BREAKDOWN OF PROGRAM CATEGORIES IN TABLE 54

SECONDARY

Programs	Number
Photography and Printing	**41**
Photography	14
Printing (general)	12
Photolithography	15
Technical Drafting	**24**
General Drafting	10
Mechanical Drafting	1
Architectural and Structural Drafting	8
Topography (Surveying)	3
Dessin de mécanique de batiment*	2
Meat-cutting	**24**
Meat-cutting	24
N.E.C.	**34**
Forest Ranging	9
Animal Producing	6
Grading and Scaling	1
Public Works Laboratory Analysis	3
Construction Carpentry	1
Electronic Household Appliances Service	3
Telecommunications Equipment Operation	2
Office Machine Mechanics	2
Office Machine Electromechanics	2
Precision Instrument Mechanics	1
Telecommunications Equipment Installation and Repair	1
Plastic Molding Machine Set-up and Operation	3

* Program not available in English

COLLEGE

Programs	Number
Biological Technology	**44**
Techniques du milieu naturel*	3
Diploma in Agriculture	7
Techniques agricoles (zootechnologie; horticulture légumière et fruitière; machinisme agricole; phytotechnologie, technologie des sols)*	16

* Program not offered at an English-language institution

Techniques de thanatologie*	1
Forestry Management (Forestry Development and Conservation; Commercial Exploitation of the Forest; Timber-processing)	17
Chemical Technology	**54**
Chemical Technology (Analytical Chemistry; Chemical-Engineering Technology)	54
Architectural and Engineering Technology	**96**
Technology of Building and Public Works (Technology of Architecture; Techniques du génie civil;* Building Systems and Engineering Technology)	96
Electrotechnology	**38**
Electrotechnology (Electrodynamics; Industrial Automation; Electronics; équipements audio-visuels*)	38
Other Physical Technology, N.E.C.	**66**
Techniques cartographiques et géodésiques*	33
Techniques du papier*	1
Meubles et bois ouvré*	1
Mechanics (Mechanical Engineering Technology; équipement motorisé;* dessin de conception mécanique*)	10
Energy Technology	4
Techniques maritimes;* (construction navale;* navigation;* mécanique de marine*)	1
Techniques du textile;* (production et contrôle*)	1
Assainissement de l'eau*	3
Techniques de métallurgie* (contrôle de la qualité;* soudage;* procédés métallurgiques*)	1
Technologie minérale* (géologie appliqué;* exploitation;* minéralurgie*)	5
Aeronautique* (fabrication;* pilotage;* Aircraft Maintenance; avionique*)	4
Landscaping	2
Police Technology	**40**
Police Technology	37
Correctional Intervention Technology	3
Administrative Technology	**28**
Administrative Technology (Marketing, Industrial Management, Transportation)	28
Art Technology	**3**
Techniques de design industriel*	1
Communications graphiques* (typographie;* impression;* reliure;* photolithographie-photomécanique*)	2

* Program not offered at an English-language institution

UNIVERSITY

Health Science	**35**
Medical Dentistry	10
Medicine (General and Specialties)	25
Pure Science	**27**
Mathematics (including Actuarial Science and Statistics)	18
Physics	2
Chemistry	7
Applied Science	**51**
Forestry	2
Agriculture	11
Architecture	12
Computer Science	1
Engineering, General	2
Chemical Engineering	3
Civil Engineering	8
Mechanical Engineering	1
Electrical Engineering	2
Industrial Engineering	3
Physical Engineering	1
Mining and Metallurgical Engineering	1
Landscape Architecture and Environmental Design	3
Natural Resource Management	1
Social Science	**69**
Law	60
Economics	9
Administrative Science	**177**
Administration	35
Accounting	75
Industrial Relations	27
Marketing	20
Finance	16
Public, School and Hospital Administration	4

BIBLIOGRAPHY

Abrams, Doris L. "Sex-Composition of Occupation and the Determinants of Women's Earnings." Paper presented at the Annual Meeting of the American Educational Research Association, Los Angeles, April, 1981.

Alden, Elaine F., and Bernice B. Seiferth. "Factors Influencing Choice of Technical Careers by Women and Minorities." Paper presented at the Annual Meeting of the American Educational Research Association, University of Michigan, Ann Arbor, July, 1979.

Alden, Elaine F. and Bernice B. Seiferth. "Women in Science and Technology." **The High School Journal** (May 1981), pp. 322-325.

Armstrong, Pat, and Hugh Armstrong. **A Working Majority; What Women Must Do For Pay.** Ottawa: Canadian Advisory Council on the Status of Women, 1983.

Auster, Carol J., and Donald Auster. "Factors Influencing Women's Choice of Non-Traditional Careers: The Role of Family, Peers and Counsellors." **The Vocational Guidance Quarterly** (March 1981), pp. 253-263.

Baker, M. **"What Will Tomorrow Bring?..." A Study of the Aspirations of Adolescent Women.** Ottawa: Canadian Advisory Council on the Status of Women, 1985.

Barclay, Lizabeth A., et al. "The Impact of Gender, Perceived Female Isolation and Beliefs in Traditional Roles for Women on Job Satisfaction." Paper presented at the Annual Meeting of the Midwestern Psychological Association, Detroit, 1981.

Barrette, Diane. **Les femmes et les métiers non traditionnels.** Québec: ministère de l'Education, 1984.

Berthelot, Michèle, and Thérèse Mailloux. **Explorons de nouveaux espaces.** Québec: Conseil du Statut de la femme, ministère de l'Éducation, ministère de la Science et de la Technologie, 1985.

Blishen, Bernard R. "Socio-economic Index for Occupations in Canada." **Revue canadienne de sociologie et d'anthropologie**, 4, No. 1 (1967), pp. 41-53.

Blouin, Jean. "Le marché du travail des années 90. Quelques aperçus." **Canal-Isep**. Québec: ministère de l'Éducation, No. 15 (1985).

Booth, Susan. "Counselling Women Who Want 'Men's Jobs'." **The School Guidance Worker**, 37, No. 3 (1982), pp. 45-50.

Boothby, Daniel. **Women Reentering the Work Force and Training Programs: Evidence from Canada.** Ottawa: Economic Council of Canada, 1986. Available from Supply and Services Canada.

Boulet, Jac-André. "La diversification professionnelle des femmes en milieu de travail." In **Pour un partage équitable**. Proceedings of a colloquium on the economic situation in the labour marker. Ottawa: Supply and Services Canada, 1985.

Boulet, Jac-André, and Laval Lavallée. **The Changing Economic Status of Women.** Ottawa: Supply and Services, Canada, 1984.

Brault, Lucie, and Suzanne Laberge. "Les filles face à l'activité physique au niveau collégial." In **Le temps d'y voir**, papers presented at the Conférence internationale sur la situation des filles. Montréal: Guérin, 1986, pp. 69-77.

Brunner, Nancy R. "Blue-collar Women." **Personnel Journal**, April, 1981, pp. 279-282.

Burlin, F. "Sex-role Stereotyping: Occupational Aspirations of Female High School Students." **School Counsellor,** 24 (1976), pp. 102-108.

Canada. Department of Employment and Immigration. **Les finissants du secteur professionnel des cégeps et le marché de l'emploi.** Édition 1985 (promotion 1982-1983). Montréal, C.E.I.C., Québec region, 1985.

Canada. Department of Labour. **Women in the Labour Force: Facts and Figures.** Ottawa: Supply and Services Canada, 1986.

Canada. Department of National Health and Welfare. **1986 Poverty Lines.** Ottawa: Supply and Services Canada, 1986.

Canada. Employment and Immigration Commission (C.E.I.C.). **Les femmes et les professions non traditionelles. Liste des professions par code CCDP à 4 chiffres, identifiées comme étant les professions non traditionnelles pour les femmes. Région du Québec.** Groupes spéciaux et action positive/Formation, Montréal, C.E.I.C., September, 1984.

Canada. Science Council of Canada. **Who Turns the Wheel?** Proceedings of a workshop on the science education of women in Canada. Ottawa: Science Council of Canada, 1982.

Canada. Statistics Canada. **Earnings of Men and Women - Canada.** Ottawa: Supply and Services Canada, 1987.

Canada. Statistics Canada. **The Labour Force: December, 1986.** Catalogue 71-001, monthly. Ottawa: Supply and Services Canada, January, 1987.

Canada. Statistics Canada. **Historical Labour Force Statistics: Actual Data, Seasonal Factors, Seasonally Adjusted Data.** Catalogue 71-201, annual. Ottawa: Supply and Services Canada, 1986.

Canadian Advisory Council on the Status of Women. **Critical Skill Shortage: New Opportunities for Women.** A Brief to the Parliamentary Task Force on Employment Opportunities for the 80's. Ottawa, January, 1981.

Carney, Myrna, and Carolyn Stout Morgan. "Female College Persisters: Non-traditional versus Traditional Career Fields." **Journal of College Student Personnel** (September 1981), pp. 418-423.

Carpentier, Renée. **Les nouvelles technologies et le travail salarié des femmes.** Québec: Conseil du statut de la femme, 1983.

Carpentier, Renée, and Claire Turcotte. **Les filles et les formations non traditionnelles: de l'intérêt mais beaucoup d'obstacles.** Québec: ministère de l'Éducation, Direction de la recherche, 1988.

Centrale de L'enseignement du Québec (C.E.Q.). **Harcèlement sexiste, harcèlement sexuel, agression sexuelle à l'endroit des étudiantes du primaire et du secondaire.** Sainte-Foy: Communications C.E.Q., 1985.

Chusmir, Leonard H. "Characteristics and Predictive Dimensions of Women Who Make Non-traditional Vocational Choices." **The Personnel and Guidance Journal** (September 1983), pp. 43-47.

Corbeil, Paul, and Pierre Michel. **Relance au collégial. Promotion 1974-1975. Évolution de la carrière jusqu'en 1981.** Québec: ministère de l'Éducation, Direction des politiques et des plans, 1985.

Corbeil, Paul, and Pierre Michel. **Relance au secondaire. Promotion 1974-5. Évolution de la carrière jusqu'en 1981.** Québec: ministère de l'Éducation, Direction des politiques et des plans, 1985.

Cormier, Roger A., et al. **Les enseignantes et enseignants du Québec. Une étude socio-pédagogique.** Volume 8, Québec: ministère de l'Éducation, Direction des politiques et des plans, 1985.

Crawford, Jim D. "Career Development and Career Choice in Pioneer and Traditional Women." **Journal of Vocational Behaviour**, No. 12 (1978), pp. 129-139.

David, Hélène. **Femmes et emploi: le défi de l'égalité.** Montréal: Presses de l'Université du Québec ans Institut de recherche appliquée sur le travail, 1986.

Del Vento Bielby, Denise. "Career Sex-Atypicality and Career Involvement of College Educated Women: Baseline Evidence from the 1960s." **Sociology of Education**, 51 (January 1978), pp. 7-28.

Dufort, J.P. **Diplomés 1983.** Québec: ministère de l'Éducation, Direction des études économiques et démographiques, 1985.

Dumas, Suzanne. **Hors des sentiers battus: témoignages d'étudiantes inscrites à des programmes de formation non-traditionnels.** Québec: ministère de l'Éducation, Direction de la recherche, 1986.

Dussault, Ginette. **"A travail équivalent, salaire égal": la portée de la revendication.** Montréal: Institut de recherche appliquée sur le travail, Bulletin No. 27 (September 1987).

Dussault, Ginette. **La discrimination sur le marché du travail: le cas des emplois de bureau à Montréal.** PhD thesis, McGill University. Montréal: 1983.

Eko, Milverton J., and Walter C. Brown. "Factors Influencing Women's Occupational Choices." **Journal of Studies in Technical Careers**, 3, No. 3 (Summer 1981), pp. 241-249.

Ellis, Dormer. **These Women Are Engineers. Questionnaire-Survey.** 2nd Convention of Women Engineers of Canada. Ottawa: Canadian Council of Professional Engineers, 1983.

England, Paula. "The Failure of Human Capital Theory to Explain Occupational Sex Segregation." **The Journal of Human Resources**, No. 17 (1982), pp. 358-370.

Epstein, Cynthia F. "Changing Perspectives and Opportunities and Their Impact on Careers and Aspirations: The Case of Women Lawyers." Paper presented at the Annual Scientific Meeting of the Gerontological Society. Boston: 1982.

Flamand, Guy, and Richard Morin. **Les examens de sciences et de mathématiques au secondaire: Une analyse de la participation et des taux d'échec aux examens de 1976 à 1982.** Québec: ministère de l'Éducation, Direction de la recherche, 1985.

Gaskell, Jane. "Young Women Choose Paths to the Future." In **Le temps d'y voir.** Papers presented at the Conférence internationale sur la situation des filles. Montréal: Guérin, 1986, pp. 271-282.

Gauthier, Jacques. **Les femmes et l'emploi: de la discrimination à l'égalité.** Montréal: Institut de recherche appliquée, Bulletin No. 26 (August 1984).

Glaze, Avis. **Factors Which Influence Career Choice and Future Orientations of Females: Implications for Career Education.** Abstract of University of Toronto PhD thesis. Toronto: 1979.

Gutek, Barbara A., and Veronica F. Nieva. "Determinants of Career Choice in Women." **New Directions for Education, Work and Careers**, No. 8 (1979), pp. 7-20.

Gwinn, Yolanda, and Doris K. Williams. **Women, Equity and Career Development.** Bowling Green, Ohio: Bowling Green University, 1978.

Hahn, Carole L. "Social Studies with Equality and Justice for All: Toward the Elimination of Sexism." **Journal of Research and Development in Education**, 13, No. 2 (1980), pp. 103-112.

Hatcher, Maxine A., and Louise Penner. "Beauty and the Boss: A Mixed Blessing." Paper presented at the Annual Meeting of the Southeastern Psychological Association. Atlanta: 1983.

Heins, Marilyn, et al. "The Importance of Extra-Family Support in Career Choices of Women." **The Personnel and Guidance Journal** (April 1982), pp. 455-459.

Hirschfield, Madeline. "The Imposter Phenomenon in Successful Career Women." Paper presented at the Annual Convention of the American Psychological Association. Washington, D.C.: August 1982.

Holder, Birdie H. "Nontraditional Workers Move into the Real World." **Personnel Journal** (January 1983), pp. 34-36.

Jagacinski, Carolyn M., et al. "Engineering Careers: Women in a Male-Dominated Field." Paper presented at the Annual Meeting of the American Educational Research Association. Montréal: 1983.

Kane, Roslyn D., and Pamela Frazee. **Occupational Choices: Do Traditional and Non-traditional Women Differ?** Washington, D.C.: Women's Bureau, Department of Labor, 1978.

Kelly, Joan M., and Betty L. Campbell. **Final Report. Satisfactions and Dissatisfactions of People in Traditional and Nontraditional Jobs.** Lubback, Texas: Texas Technical University, June, 1982.

Kingdon, Margaret A., and William E. Sedlacek. **Differences Between Women Who Choose Traditional and Nontraditional Careers.** Research report. College Park: University of Maryland, 1981.

Kingdon, Margaret A., and William E. Sedlacek. "Differences Between Women Who Choose Traditional and Nontraditional Careers." **Journal of the National Association for Women Deans, Administrators and Counselors**, 45, No. 2 (Winter 1982), pp. 34-37.

Laroche, Gabriel. "Le rôle de la P.M.E. dans la création d'emplois au Québec." **Le marché du travail**, Québec: ministère du Travail, 9, No. 7 (July 1988), pp. 64-79.

Lasvergnas-Grémy, Isabelle. "Invisible Mechanisms in the Selection of Women in the Fundamental Sciences." (Summary of paper presented in French) In **Proceedings of the First National Conference for Women in Science, Engineering and Technology**. Ed. Hilda Lei Ching. Vancouver: Society for Canadian Women in Science and Technology, 1983, pp. 306-307.

Lee, Lesley. **Étude des facteurs limitant l'orientation des adolescentes dans les programmes de formation non-traditionnels.** Québec: ministère de l'Éducation, Coordination à la condition féminine, 1984.

Lentz, Linda P. "Needed: A Valid Measure of Women's Career Aspirations." Paper presented at the Annual Meeting of the American Educational Research Association. New York: 1982.

Mackaay, Ejan. **Les avocats du Québec - sondage général, 1987.** Montréal: Barreau du Québec, April-May, 1987.

Maisonneuve, Daniel. **L'état de scolarisation de la population québécoise. Une analyse des données du recensement de 1981.** Québec: ministère de l'Éducation, Direction des études économiques et démographiques, June 1984.

McIlwee, Judith S. "Organization Theory and the Entry of Women into Nontraditional Occupations." **Western Sociological Review**, 12, No. 1 (1981), pp. 33-52.

McIlwee, Judith S. "Work Satisfaction among Women in Nontraditional Occupations." **Work and Occupations** 9, No. 3 (August, 1982), pp. 299-335.

Menzies, Heather. **Women and the Chip. Case Studies of the Effects of Informatics on Employment in Canada.** Montréal: L'Institut de recherches politiques, 1981.

Michel, Pierre. **Relance au collégial. Promotion 1985-1986, situation au 31 mars 1987.** Québec: ministère de l'Éducation, Direction des études sur l'emploi et les carrières, 1988.

Michel, Pierre. **Relance au secondaire. Promotion 1985-1986, situation au 31 mars 1987.** Québec: ministère de l'Éducation, Direction des études sur l'emploi et les carrières, 1988.

Moore, Loretta M., and Annette U. Rickel. "Characteristics of Women in Traditional and Non-traditional Managerial Roles." **Personnel Psychology**, No. 33 (1980), pp. 317-320.

Mura, Roberta, et al. "Attitudes, expérience et performance en mathématiques d'étudiantes et d'étudiants de cinquième secondaire selon leur choix scolaire." **Les Cahiers de recherche du GREMF**. Québec: Université Laval, No. 9 (1986).

Mura, Roberta, et al. "Les filles et les sciences." In **Le temps d'y voir,** papers presented at the Conférence internationale sur la situation des filles. Montréal: Guérin, 1986, pp.53-68.

Paquette, Louise. **La situation socio-économique des femmes. Faits et chiffres.** Québec: Les Publications du Québec, 1989.

Payeur, Christian. "L'informatisation et le personnel de soutien des commissions scolaires et cégeps." **S'allier l'informatique,** No. 7, Sainte-Foy: Centrale de l'enseignement du Québec, April, 1988.

Pelchat, Pierre. "Travailleuses enceintes et retrait préventif: La C.S.S.T. serre la vis." **Le Soleil**, 23 Jan. 1988.

Porter, Danyèle. **Les femmes et les emplois non traditionnels.** Master's thesis, Laval University, Québec, 1984.

Pray, Margaret, and Kenneth R. Thomas. "Overcoming Obstacles: Nontraditional Jobs for Women." **Journal of Employment Counseling** (March 1982), pp. 2-9.

Québec. Bureau de la Statistique du Québec. **La situation démographique au Québec, édition 1988.** Québec: Les Publications du Québec, 1988.

Québec. Conseil de la Science et de la Technologie. **La participation des femmes en science et technologie au Québec.** Québec: 1986.

Québec. Ministère de l'Éducation. **L'école québécoise et les communautés culturelles.** Québec: 1985.

Québec. Ministère de l'Industrie et du Commerce. **Portrait de la femme d'affaires au Québec.** Québec: 1985.

Québec. Ministère du Loisir, de la Chasse et de la Peche. **Sports-Études.** Report of the committee responsible for research on the reconciliation of sports and education in Québec. Québec: 1982.

Ricard, Philippe. **Sexisme et éducation.** Montréal: Collège de Rosemont, 1988.

Ricard, Philippe, et Jean-Guy Banville. **Le harcèlement sexuel au cégep.** Montréal: Collège de Rosemont, 1984.

Rioux, Fernand. **Le marché du travail des femmes au Québec. Analyse descriptive et éléments de stratégie.** Commission de l'emploi et de l'immigration du Canada, Région du Québec, 1984.

Roberge, Pierre. "Le nombril vert et les oreilles molles: l'entrée des jeunes Québécois dans la vie active dans le second tiers des années 1970." **Les Cahiers d'A.S.O.P.E.**, IV, Québec/Montréal, Faculté des Sciences de l'Éducation de l'Université Laval and Département de Sociologie de l'Université de Montréal, July 1979.

Roy, Claudine. **Caractéristiques et cheminements de carrière des femmes en emploi non traditionnel. Revue de litérature.** Québec: ministère de l'Éducation, Coordination à la condition féminine, 1985.

Ruhland, David J., et al. **Determinants of Career Goals in Junior and Senior High School Women.** Rolla, Missouri: University of Missouri, 1978.

Sandler, Ronnie. **"When I Was Little, I Didn't Know Girls Could Do That..." A Study of Sex Equity in Vocational Education in New Hampshire.** Littleton: Women in Skilled Trades, June 1982.

Sauter, Diana et al. **The Effects of High School Counseling Experience and Attitudes Towards Women's Roles and Traditional or Nontraditional Career Choice.** Madison: University of Wisconsin, 1978.

Schom-Moffatt, Patti, and Cynthia D. Telfer. **Women and Work: Introduction to Non-traditional Work.** Ottawa: Canadian Research Institute for the Advancement of Women, c. 1980.

Scott, Robert E. "The Pleasures and Pitfalls of a Nontraditional Occupation." Paper presented at the American Vocational Association Annual Convention. New Orleans, December 1980.

Secor Inc. **Women Engineers; Their Careers, Their Workplace. 2nd Convention of Women Engineers of Canada.** Ottawa: Canadian Council of Professional Engineers, 1983. Report.

Secor Inc. **Women Engineers; Their Careers; Their Workplace. 2nd Convention of Women Engineers of Canada.** Ottawa: Canadian Council of Professional Engineers, 1983. Summary.

Skolnick, J., et al. **How to Encourage Girls in Math and Science.** Englewood Cliffs, New Jersey: Prentice-Hall, 1982.

Smail, Barbara. "Yes to the GIST (Girls into Science and Technology) Program." In **Proceedings of the First National Conference for Women in Science, Engineering and Technology.** Ed. Hilda Lei Ching. Vancouver: Society for Canadian Women in Science and Technology, 1983, pp. 209-221.

Smail, Barbara, and Judith Whyte. "Girls Into Science and Technology: The First Two Years." **School Science Review** (June 1982), pp. 620-630.

Thomas, Hollie B. "Perceived Personal Barriers to Entering Non-Traditional Occupations for Women: A Factor Analytic Study." **The Journal of Vocational Education Research**, 5, No. 4 (Autumn 1980), pp. 1-19.

Travail Non Traditionnel (T.N.T.) Inc. **Rapport d'évaluation 1987**. Montréal: T.N.T., 1987.

Whitaker, Colbert, and William Hales. "Women in Administration." Paper presented at the 68th Annual Meeting of the National Association of Secondary School Principals. Las Vegas: February 1984.

White, Judith. "Le projet GIST (Girls into Science and Technology)." In **Fille ou garçon - éducation sans préjugés**. Proceedings of the Colloquium: Éducation et préjugés sexistes. Paris: Magnard, 1985, pp. 93-102.

Wilson, Jean et al. "A Comparison of Nontraditional and Traditional Career Women." **The Vocational Guidance Quarterly** (December 1982), pp. 109-117.

Wilson, Susan. "A New Decade: The Gifted and Career Choice." **The Vocational Guidance Quarterly** (September 1982), pp. 53-59.

Wolfe, Lynda K., and Nancy E. Betz. "Traditionality of Choice and Sex-Role Identification as Moderators of the Congruence of Occupational Choice in College Women." **Journal of Vocational Behaviour**, No. 18 (1981), pp. 43-55.

Yergeau, Nicole. **S.P.R.I.N.T. (Stratégie pour réussir l'intégration au non-traditionnel)**. Guide d'animation et Guide d'activités. Québec: ministère de l'Éducation, Coordination à la condition féminine, 1988.

Yoder, Janice D., et al. "The Price of a Token." Paper presented at the Annual Convention of the American Psychological Association. Montréal, 1980.

Gouvernement du Québec
**Ministère
de l'Éducation**

28-2463A